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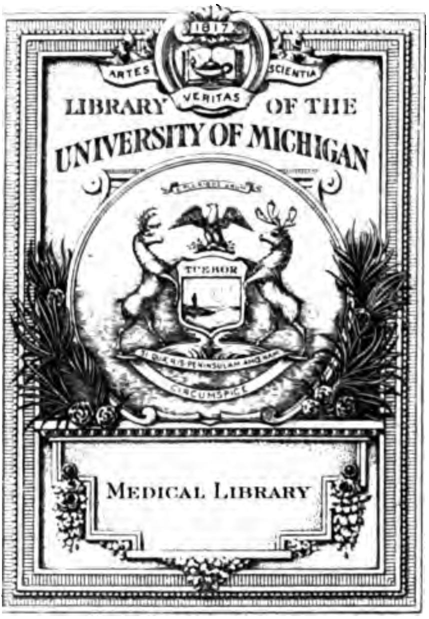

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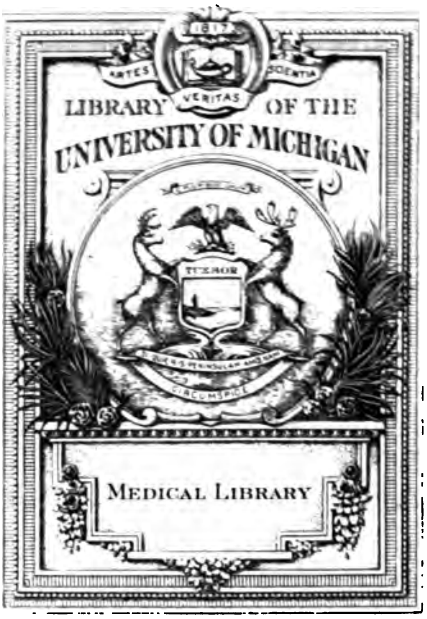

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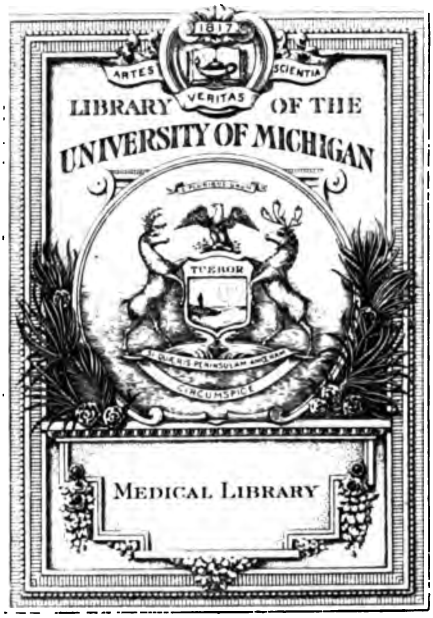

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MEDICAL JOURNAL.

EDITOR:

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VOLUME XLIII.

JULY TO DECEMBER,

1886.

NEW YORK:
M. E. GAILLARD.
MDCCCLXXXVI.

these tubes as described by him is as follows: "The tibiæ and fe chickens are scraped and steeped in hydrochloric acid and water, 1-5, u are soft. Their articular extremities are then snipped off with a pair of the endosteum is raised at one end and pushed through to the other e along with its contents. They are then re-introduced into a fresh sol the same strength until they are rendered a little more pliable and so what is ultimately required (as they afterwards harden a little by ste the carbolized solution). When thus prepared they are placed in a sol carbolic acid in glycerine, 1-10." In ten days they are ready for use af have been punched in them. The tubes will last longer if, instead of acid, chromic acid is employed.

Protective oiled silk should be used over the line of suture, to prev irritation of the carbolic acid, and also to prevent adhesion of the dre the wound. This protective oiled silk can be made in the following ma described by Sir Joseph Lister: Take ordinary oiled silk, paint it ov copal varnish, and when dry brush over the surface a mixture consisting part of dextrine, two parts of powdered starch, and sixteen parts of c acid, 1-20. Carbolic acid will not permeate the oiled silk if the varnish is and the mixture permits the piece of protective to be moistened throug that dust will not collect in places upon the protective, as it does wh mixture is not employed.

The sponges to be used in every operation must be carefully disi otherwise they may become prolific and dangerous sources of infection. process of cleaning, bleaching, and disinfecting sponges is very compli and I would suggest to you that the druggist do this, and when he has pared them for you to carefully disinfect them, as this can be easily do allowing them to stand in a glass fruit-jar containing a solution of carbol 1-20. The jar should be thoroughly disinfected before using it for th pose, and it should be hermetically sealed at once and not opened operation. Any sponges which have been thus prepared and used cleaned by allowing them to stand in water a few days, and this will dec and wash out the fibrin contained in the meshes of the sponges, and th are again put up in the hermetically sealed glass jars. The employ sponges a second time may be considered safe, if the disinfective pr fully carried out; it is, however, best in every great operation new sponges.

Third. The Preparation of Antiseptic Dressings.— more or less mystery, to say nothing of the expense, al antiseptic dressings. It has been thought impossible through some especial agency. There is neither myste the preparation of these dressings, and I shall give you can prepare them for any case and with but small exp who practices antiseptic surgery has some modification of h only hints about the preparation

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ORIGINAL ARTICLES.

ARTICLE I.

THE NATURE AND TREATMENT OF SEA-SICKNESS.— By J. LEONARD CORNING, M.D., New York.

By sea-sickness is usually understood a complex of symptoms chiefly characterized by vertigo, nausea, vomiting and extreme mental depression—phenomena attributable as a rule to the oscillations of a vessel at sea, but which may likewise be induced on land by rocking, swinging, and other exercises in which the equilibration of the body is more or less jeopardized.

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Symptoms.—The first abnormal sensation usually complained of is a "feeling of unsteadiness," which soon culminates in well-marked vertigo. This symptom is speedily followed, in the majority of cases, by more or less intense nausea, culminating in profuse vomiting at frequent intervals, till at length the stomach, voided of its contents, gives evidence of its irritable condition by prolonged and most distressing retching. There is a total loss of appetite, and in exquisite cases even fluid nourishment is at once rejected.

Though the gastric derangements constitute the most striking feature of the affection in many cases, there are, nevertheless, other phenomena of importance, pointing directly to an implication of the central nervous system. Chief among these latter symptoms are vertigo, depression and an extreme irritability. On attempting to walk the subject staggers about and is unable to co-ordinate his movements; if spoken to, his replies are curt and indicative of preoccupation, and if attempts are made to arouse him from his sorry ruminations, such advances are met with asperity and rudeness. In the more serious phases of the affection the degree of depression is so great that death would be accepted as a welcome release from tortures which words are wholly inadequate to portray. The sufferer casts himself upon the deck, or seeks his berth, remaining in a prone condition, for hours or even days together, in a semi-torpid condition, entirely oblivious to all about him. A positive loathing for food is developed, and the odors from the kitchen are sufficient to cause the most severe retching and nauseous feelings, which can only be adequately understood by those who have experienced them. Sometimes the physiognomy has a rubicund appearance, indicative of a congested condition of the nervous centres. At others, and in the more common condition, the countenance wears an ashy look, which points unmistakably to an anæmic condition of the cerebral ganglia. The conjunctivæ are pale; the ears have a waxy look, and the pulsation of the carotids is feeble. Though covered with blankets the subject complains of frequent rigors, and the skin is cold to the touch. Sometimes, too, there is alternate flushing and pallor of the countenance—phenomena which point in the most unmistakable manner to the deranged condition of the vaso-motor mechanism. Neuralgic pains of a more or less distressing character are oft-times complained of, and are chiefly confined to the face and dorsal region. Whether these pains are due to climatic causes, or whether their true explanation is to be sought for in molecular or circulatory derangements of the cord itself is a matter not readily amenable to solution. For my own part the latter alternative seems to me the most probable. Be this as it may, the constant chilliness of which those suffering from sea-sickness complain adds considerably to the dolefulness of a picture already sufficiently lugubrious. Constipation is a very constant symptom, and one which, on account of the helpless condition of the patient, gives rise to much distress. The headaches so frequently present in sea-sickness, although greatly resembling the form known as "sick" headache, are not altogether attributable to gastric and intestinal causes, but are, partially at least, the direct result of the molecular disturbance of the cerebral nervous system, which is, I believe, the essential feature of the affection. Diarrhœa, though sometimes observed, is by no means as frequent as the opposite condition; when it does occur it is often difficult to determine whether it is to be regarded as a factor of the disease, or whether it is the result of some indiscretion of the table. Suppression of the menses frequently occurs among women while at sea and laboring under the effects of sea-sickness, but otherwise healthy. Of 163 observations among women of a high social position, Dr. Irwin* found that 13 passed the period on board without menstruating, 52 menstruated before the period, and 99 at the period. Of these, 47 complained of unusual discomfort, accompanied in 37 cases by increased and prolonged flow, and in 2 by diminished discharge. Of the 13 who passed the period, 3 were still on board at the following period; one of the three then menstruated almost normally; in one the result was not known, and in the other the flow was increased in quantity and prolonged in duration, but she subsequently experienced complete amenorrhœa during two periods. As to the special conditions in an ocean voyage which might be supposed to exercise an influence upon the female habit, they might, according to Dr. Irwin, be classed under three heads: (1) Physical influences, dependent upon the novelty of the situation and the apprehension of danger; (2) ærial conditions, consisting in some special quality of sea-atmosphere; and (3) motion as a direct result of the movement of the vessel.

"There could be no question," the same observer continues, "that strong emotional impressions had some influence upon the menstrual functions, but this influence was less marked than some believed in the class of cases under consideration, that physical influences did play some part in the disturbances of menstruation was quite probable in cases of sudden arrest of the flow in women who embarked during a period. But many women who suffered most severely during the sea-voyage had not the slightest fear, and would thoroughly enjoy sea-life but for its unpleasant effects in this direction." * * * * *

"With regard to periodicity, the most constant danger was a premature return of the flow, and this return might take place at any time during the inter-menstrual epoch. If a woman went on a voyage shortly after the cessation of the flow, there would be a liability to a renewal of the discharge or of the peculiar symptoms attending a period, and it might lead to suppressed menstruation at the next time it should come on. Complete and passive amenorrhœa for one or more periods was a frequent after-result of the trans-Atlantic voyage.

"Of the effects of a sea-voyage upon menstruation, none was more constant or unfortunate than an aggravation of whatever discomfort was ordinarily associated with the process. In some women painful menstruation was experienced for the first time at sea, and it might be accepted as almost universally true that in every type of dysmenorrhœa the discomfort was increased, certainly at the first, and usually at subsequent periods, at sea. If there were any exceptions to this rule, they would be found in certain neurotic states."

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* "The Influence of Sea-Voyaging upon the Genital Functions in Women." By Dr. J. A. Irwin, *New-York Medical Journal*, May 9, 1885, p. 536.

The influence of sea-voyaging upon gestation is regarded by Dr. Irwin as of great importance. The influence of sea-sickness and the mechanical disturbance of the viscera, and especially of prolonged and violent vomiting, is to cause premature labor and miscarriage. The vomiting of kinetia is not to be compared with that of morning sickness in its effects upon pregnancy; it is more violent and more liable to cause miscarriage. It is also the opinion of this observer that pregnancy, especially during the latter months, predisposes to and aggravates the most distressing features of sea-sickness. Another effect of ocean voyages was the perversion or suspension of lactation. In contra-distinction to the opinion expressed by the observer, whom I have quoted above, an eminent obstetrician, Dr. Barker, I believe, entertains the belief that sea voyages are by no means liable to induce abortions. Be the real facts of the case what they may, there is proof enough at hand to show that uterine function is subject to more or less derangement at sea; and that therefore, the care of women on shipboaad, whether pregnant or not, should be a matter of solicitude on the part of the attending surgeon.

My own experience in this field, though limited, has been sufficient to enable me to corroborate without hesitancy most of the opinions advanced by Dr. Irwin. The function of sleep, as a matter of course, is more or less profoundly interfered with by a malady so distressing as sea-sickness. As a rule such interference is in great measure attributable to the distressing secondary phenomena of the disease—the vomiting and protracted nausea. Sometimes, however, even after the subsidance of the more distressing gastric symptoms, there is pronounced insomnia. Under these circumstances, there is almost always present more or less indubitable evidence of cerebral derangement, assuming the form of headache, periodic attacks of giddiness, great irritability, depression, vaso-motor derangments, and mental inertia, alternating with periods of morbid physical activity. When this condition is found to exist, insomnia may always be relieved by the use of the bromides in conjunction with a good preparation of the fluid extract of coca. These remedies should be given during the day, but not necessarily before retiring. We shall take occasion to again refer to the administration of the bromides, coca, and cocaine in the paragraph on treatment.

The subsequent effects of sea-sickness—those observed after the conclusion of the voyage—have received less attention from medical writers than the more obvious and immediate phenomena of the malady. Many persons who have suffered from sea-sickness during a protracted voyage, complain on landing of dizziness and uncertainty of gait. These phenomena are by no means always evanescent in character, the abnormal sensations returning at intervals for months or even years. As to whether permanent injury is ever accomplished by a prolonged attack of severe sea-sickness, opinions differ. For my own part, I am convinced that such morbid accidents do occur, particularly in the domain of the nervous system. On at least one occasion I have encountered profound derangement of the function of sleep, coupled with marked cerebral exhaustion, which were directly traceable to prolonged sea-sickness.

Cases of death from sea-sickness have been reported. When such accidents occur on the open sea I am inclined to ascribe their occurrence to cerebral congestion, with secondary inflammation of the meninges. I know of an old lady who, having occasion to undertake the voyage from this country to Europe, before the era of steamships, was ill continuously for over seven weeks. During this time she remained in a semi-unconscious condition; her face was livid, her limbs cold, and her whole condition was such that her life was despaired of. The only relief which she obtained was from the application of ice to the head and back of the neck. The gastric symptoms were entirely dwarfed in this case by the cerebral phenomena, which left their trace behind in the form of extreme irritability—a mental characteristic which she had never exhibited previous to the sea-voyage in question. So great was her apprehension of travel by water, that she ever afterwards refused to undertake even short journeys necessitating such insignificant voyages as the passage of a river. Such cases, though comparatively rare, are instructive, as showing the severe congestions which sometimes arise as a consequence of sea-sickness; they also serve, perhaps, to explain the fatal cases which occur on ship-board at rare intervals. Death, as the result of cerebral anæmia induced by sea-sickness, seems to me a far less plausible supposition, though cases of the kind have been recorded.

Pathology.—Marshall Hall* has afforded what, on the whole, may perhaps be regarded as the most lucid and plausible explanation of the nervous and muscular mechanism of vomiting; and since the gastric disturbances constitute so prominent a feature of sea-sickness, it will be appropriate to examine somewhat into the data bearing upon the morbid physiology of these phenomena. Dr. Hall's theory of vomiting, as subsequently modified somewhat by Dr. Chapman† is as follows:

1. "The act of vomiting is an effort, not of inspiration, but of expiration. The diaphragm is contracted and 'the contents of the thorax and abdomen are subjected to the sudden and almost spasmodic contraction of all the muscles of respiration."

2. "Meanwhile the larynx is firmly closed—'a fact observed by M. Magendie, who makes the following observation: —'In vomiting, at the moment when the ejected matter traverses the pharynx, the glottis closes with great precision."

3. "The cardiac orifice of the stomach is open, or in a patulous condition."

4. "When the three conditions just named are simultaneously present vomiting is inevitable."

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*On the Diseases and Derangements of the Nervous System, by Marshall Hall, M. D., etc., London

†Sea-sickness, and Its Successful Treatment by Means of the Spinal Ice-bag, by John Chapman, M.D., London; Second Edition, 1868.

these tubes as described by him is as follows: "The tibiæ and femora of chickens are scraped and steeped in hydrochloric acid and water, 1-5, until they are soft. Their articular extremities are then snipped off with a pair of scissors, the endosteum is raised at one end and pushed through to the other extremity, along with its contents. They are then re-introduced into a fresh solution of the same strength until they are rendered a little more pliable and softer than what is ultimately required (as they afterwards harden a little by steeping in the carbolized solution). When thus prepared they are placed in a solution of carbolic acid in glycerine, 1-10." In ten days they are ready for use after holes have been punched in them. The tubes will last longer if, instead of carbolic acid, chromic acid is employed.

Protective oiled silk should be used over the line of suture, to prevent the irritation of the carbolic acid, and also to prevent adhesion of the dressing to the wound. This protective oiled silk can be made in the following manner as described by Sir Joseph Lister: Take ordinary oiled silk, paint it over with copal varnish, and when dry brush over the surface a mixture consisting of one part of dextrine, two parts of powdered starch, and sixteen parts of carbolic acid, 1-20. Carbolic acid will not permeate the oiled silk if the varnish is added, and the mixture permits the piece of protective to be moistened throughout so that dust will not collect in places upon the protective, as it does when the mixture is not employed.

The sponges to be used in every operation must be carefully disinfected, [illegible] they may become prolific and dangerous sources of infection. The [illegible] of cleaning, bleaching, and disinfecting sponges is very complicated, [illegible] I would suggest to you that the druggist do this, and when he has prepared them for you to carefully disinfect them, as this can be easily done by allowing them to stand in a glass fruit-jar containing a solution of carbolic acid, [illegible]. The jar should be thoroughly disinfected before using it for this purpose, and it should be hermetically sealed at once and not opened until the operation. Any sponges which have been thus prepared and used can be cleaned by allowing them to stand in water a few days, and this will decompose and wash out the [illegible] contained in the meshes of the sponges, and then they [illegible] again put up in the hermetically sealed glass jars. The employment of [illegible] may be considered safe, if the disinfective process is carefully [illegible] it is, however, best in every great operation to prepare fresh [illegible]

[illegible] *Preparation of Antiseptic Dressings.*—There has always been [illegible] mystery, to say nothing of the expense, about the preparation of [illegible] dressings. It has been thought impossible to obtain them except [illegible] especial agency. There is neither mystery nor expense about [illegible] of these dressings, and I shall give you a few hints so that you [illegible] them for any case and with but small expense. Every surgeon [illegible] practices antiseptic surgery has some modification of his own, and I shall [illegible] you some general hints about the preparation of the dressings, so iting. The nerves by which the impulse, primarily originating in the "excitor" nerves, is eventually transmitted from the centres in the medulla to the muscles involved in vomiting are, according to Hall, "the spinal nerves distributed to the intercostal and the abdominal muscles." It will thus be seen that according to Marshall Hall the nervous processes involved in the act of vomiting are purely reflex in character—a proposition which, though tenable in its application to ordinary sickness, must not be too hastily assumed to represent the neuropathic principles underlying sea-sickness.

Nor can the pneumogastric be regarded as the sole motor nerve of the stomach, as affirmed by Ravitsch,* who conducted some interesting experiments with a view to elucidating this point. His investigations were conducted in the following manner: Two dogs and two frogs were fed with the same food. In one of the animals both pneumogastric nerves were then divided in the neck. After a lapse of twenty-four hours the stomachs were examined. It was then found that the stomachs of the healthy animals were almost or quite empty; whereas in the case of the animal which had been operated upon the food still remained in the stomach. Schiff,† on the other hand, has denied the validity of the conclusion of Ravitsch, that after section of the pneumogastrics the food ceases to pass from the stomach into the intestine. He bases his denial upon a series of experiments in which the pneumogastrics were divided and the intestine rendered accessible by means of appropriately located fistulæ. In this manner Schiff was able to ascertain that the stomach emptied itself in spite of the division of these nerves; and he furthermore demonstrated that movements of the stomach were obtainable through the agency of the *sympathetic*. This conclusion that the pneumogastric is not the only motor nerve of the stomach seems, therefore, justifiable.

It is worthy of note, however, that Dr. John Reid conducted similar experiments to those of Schiff, as early as 1839. By these experiments, he was led to conclude that, after communication between the stomach and pneumo-gastrics has been cut off by section of the latter—all influence of the medulla being thus diminished—the stomach is even more excitable than before. This irritable condition of the organ is seen in the fact that all food introduced into the stomach is forthwith rejected—a phenomenon which may be observed for a considerable time after the operation.

Accepting the experiment of Reid as in the main correct, Chapman is induced to conclude, "that in the majority of cases, the reflecting centre from which motor impulses productive of vomiting are transmitted to the stomach, is not the medulla oblongata, but the spinal cord. Cerebral disorders, and notably affections of the medulla oblongata, are often undoubtedly associated with vomiting; but, it seems to me that the function of the encephalic centres in relation to the stomach, is chiefly one of control or co-ordination of the agents more immediately concerned in carrying on its wondrous processes; while

*Zeitschrift für rationelle medicin, Vol. XVI. p. 432, *et seq.*

† Ibid.

those agents themselves consist of certain ganglia of the sympathetic, and of nerve-cells forming part of the gray-matter of various segments of the spinal cord."* And again, he is led (page 54) to deduce from these physiological conclusions, the following proposition relative to treatment: "In cases of vomiting where there is no organic disease, as in sea-sickness, for example, if the reflecting centre whence motor impulses proceeding to the stomach and causing vomiting be the medulla oblongata, then it is obvious that our best chances of allaying the vomiting consist in lessening the reflex activity of the medulla oblongata, by applying cold at once to the uppermost part of the spine, and across the base of the head from ear to ear; as a matter of fact, however, ice thus applied is generally inefficacious, not seldom worse than useless, and sometimes actually increases instead of stopping the vomiting. But, if in these cases ice be applied along the whole spine, and especially along the lower half of it, the vomiting will be arrested."

Guided by the success which he has obtained by the application of ice to the spine in sea-sickness, Chapman believes that his pathological conclusions receive additional justification: "These results," he says, "certainly seem to warrant the conclusion that the nervous centres which operate as the *proximate* cause of vomiting are not encephalic, but spinal."† In reply to this proposition, which, though ingenious, is, I believe, at variance with the true facts, and does not serve to explain some of the most important symptoms, I would state: that in the first place, pathological opinions based upon the results obtained from therapeutic sources are peculiarly liable to error; and secondly, that such liability to erroneous interpretation is reduced almost to a certainty when our knowledge of the physiological effects of the remedy employed is so imperfect, as in the case of the spinal ice-bag. Again, it must not be forgotten that although ice, when applied to the spine, may allay vomiting, this fact does not by any means prove that the morbid influence which lies at the root of the phenomenon is spinal and not cerebral. For we know that the vaso-motor system of the brain may be greatly influenced by such applications, and that, therefore, while we are laboring under the impression that the amelioration observed after such measures is attributable to the effect produced upon the cord by the ice, the good results obtained, may in reality be entirely due to the indirect influence of refrigeration upon the brain (through the mediation of the cord). Moreover, if one were to follow Dr. Chapman's line of reasoning to its legitimate sequence, we might with equal propriety conclude, that because ice applied to the head also relieves nausea and vomiting, then the pathological substratum of the symptoms is to be sought for in the brain alone. For my own part, while cheerfully admitting that the cord may have a rôle to play in the production of the phenomena, I am convinced that its functions are purely subsidiary—secondary in fact to the primary cerebral disturbances. In a word, the importance of the spinal cord as a possible conductor of morbid impressions from the brain, cannot be gainsaid. But, while granting this fact, we are likewise compelled to admit that the initiatory phenomena of sea-sickness—the vertigo, the *mal aise*, the depression, the irritability, the confusion of ideas, and the morbid tendency to introspection, all point to the *primary implication of the brain.*

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*Op. cit. p. 53.

†Op. cit. p. 55.

I will only add that the contemplation of the phenomena of sea-sickness from a cerebro-spinal standpoint, will lead to the best therapeutic results—a fact which will, at least, show that our views are not without practical applicability.

Causation.—The exciting cause of the malady, as is well known, consists in the undulatory movements incident to travel by sea. It is, however, by no means necessary in all cases, to undertake a sea-voyage in order to evoke the morbid phenomena; a sojourn in a rocking chair, or rapidly moving swing is quite sufficient in many instances to produce the typical symptoms. Those of a neurotic, impressionable constitution are usually more liable to the malady than those of a robust and phlegmatic temperament.

Treatment.—In former times it was customary to look upon the stomach as the seat of primary derangement in sea-sickness. Accordingly, we find that the older writers were wont to recommend capsicum, the bicarbonate, and other preparations of soda, bismuth, ginger, brandy, champagne, the juice of lemons, oranges and other fruits, the application of belts and broad bandages about the abdomen, and, in short, any expedient was deemed worthy of trial, which promised some effect upon gastric function. With the ever increasing knowledge of the reciprocal relations existing between the functions of the organs and the central nervous system, the short sighted views of pathology, which had dominated the professional mind for so many generations gradually gave way, and in their place have come the more recent theories, which look to the cerebro-spinal axis as the true seat of the primary disturbance. In accordance with these changes of opinion, the treatment of sea-sickness has undergone the most complete metamorphosis, so that at the present day, most scientific physicians have totally repudiated the crude methods adopted by the practitioners of a generation or two ago.

Among the various systems of treatment which have made their appearance as the direct result of the recent revolution in physiological and pathological opinion, none evinces more careful thought and ingenuity than that of Dr. Chapman. I have already had occasion to take exception to some features of the pathologcal opinions entertained by this gentleman; but, while so doing, I am equally conscious of the great service which he has rendered to the cause of physiological therapeutics, especially as exemplified in his method of treating sea-sickness.

Briefly stated, Dr. Chapman's method of treatment consists in the application of ice along the spine, by means of appropriately constructed sacks of India-rubber, which are secured in place by buckles and straps. The object sought after by this mode of procedure, is the reduction of the reflex activity of the cord, and the consequent prevention of vomiting.

The principles of application and the construction of the spinal ice-bag are thus described by Dr. Chapman:

"It is necessary, *first*, that the ice be kept in contact with each region of the spine, the upper portion of the ice being prevented from falling down as the melting proceeds; *secondly*, that the application do not extend far on each side of the spinal cord, otherwise the patient will become cold; *thirdly*, that, having regard to the comfort of the patient, the mouth of the bag containing the ice be so effectually closed as to prevent the water from escaping as the ice melts; *fourthly*, that the mouth of the bag be as wide as the bag itself, in order that the bag may be easily and rapidly filled; and, *fifthly*, that, without any inconvenience to the patient, facility should be afforded for giving escape to the air which accumulates in each compartment of the bag as the ice melts."

"After long consideration and many experiments, I have succeeded in perfecting a bag which supplies all the above requirements. It is made of India-rubber, and consists of several compartments—generally three. These compartments are separated from each other either by intervening brass clamps applied externally, or by internal India-rubber septa of different lengths. In all cases the mouth of the bag is closed by a clamp, one side of which is so thin, when turned next the back, as to cause no inconvenience to the wearer of the bag, while the action of the clamp itself helps to keep the bag in its requisite oval shape. Loops are affixed to the outer side of the bag, by which it may be sustained and secured in its place."

"In order to keep the bag in its position most securely, and at the same time to allow the patient to remain upright or to walk about, I pass an elastic band through the upper loops of the bag and then round the head. The bag is thus held close to the back of the neck. In some cases I pass a long tape through the lower loop, carry each half of this tape over the shoulders, cross one over the other in front of the chest, carry them backward round the waist in order to clasp the bag closely into the small of the back, and then, bringing them forward, tie them in front. The bag will thus be sustained chiefly by the shoulders instead of by the head. This method of securing the bag is, however, not essential; it may be sustained, in the case of men, by buttoning the waistcoat and coat tightly over it; and, in the case of women, by tightening their dress over it in like manner. Of course, when stays are worn, it is necessary to loosen them sufficiently to allow the bag to pass down between them and the back." * * *

And continuing, he says: "Persons whose liability to sea-sickness is not extreme will, I believe, generally find that the malady may be wholly prevented by applying ice as directed, as soon as they find themselves becoming ill. In such cases the degree of cold requisite for stopping the sickness will most frequently be obtained if the bag be placed outside the shirt or chemise, and in some cases even outside the flannel vest, when such a garment is worn, I have satisfied myself however, that *in all case it is much better to let the ice bag come in direct contact with the skin.*" * * *

"As an auxiliary remedy which has often been found useful, I recommend the drinking of iced water, or better, the swallowing of small lumps of ice. Assuming the proximate cause of the malady to be what I have affirmed it to be, it will be seen at once that, ice brought in contact with the peripheral ends of the nerves of the stomach will act on the same principle as it does when applied to the spinal region ; it acts as a sedative, and so far, at least, as the stomach is concerned, lessens the number of irritating impressions, which would otherwise be transmitted from that viscus to the spinal cord, the reflex action of which is thus also lessened."

"A far more important, and indeed in some rare cases an indispensably necessary auxilary remedy, is the assiduous application of warmth to the feet, and even to the surface of the body generally if it be cold. In all cases it is desirable that patients especially prone to become cold be kept warm by an abundance of woolen clothing. I have said that, as a general rule, the application of the ice-bag will cause the full re-establishment of the peripheral circulation, the diminution of which produces the fall of temperature, resulting in the distressing sensation of coldness experienced by persons who are sea-sick; but in some patients the contractile force expended on the arteries is usually great, while attraction of the textural elements for blood is very feeble. In such cases the action of the ice must be aided by a resort to such measures as may be necessary for keeping the patient comfortably warm. The feet and head need most especial attention, for the circulation in them is likely to be most injuriously reduced. Sometimes the feet only are very cold, in that case they should be well wrapped up, and, if needful, a 'foot-warmer', or hot bottle should be applied to them. Sometimes the head, particularly the forehead, becomes deadly cold; when this happens care should be taken that while the ice-bag is well applied along the lower part of the back of the neck and between the shoulders, the head is surrounded with a woolen cap or suitable wrapper of some kind, and speedy relief may often be given by the warm hand of a healthy person placed on the forehead of the sufferer." These in brief are the main features of Dr. Chapman's system of treatment— a method, which, when first promulgated produced no little stir in the medical world.

From the numerous cases of sea-sickness treated by means of the spinal-ice-bag, which are recorded in Dr. Chapman's monograph, I select the following:

I. "June 11, 1864, I crossed from Newhaven to Dieppe. The day was fine; there was a fresh but not strong breeze, and just sufficient motion to cause about a dozen persons to become sick. Mrs. G., a young Frenchwoman, began to be very ill soon after the vessel left; she vomited bile frequently, was exceedingly pale, and complained of an intense headache. With much difficulty she was persuaded to allow me to apply ice to her back after her sickness had increased. In the first instance it was imperfectly applied—her dress being too tight to permit the bag to pass down to the lumbar region. Extending too high upwards in consequence, it came against the head and could not be closely applied to the back of the neck. While the bag was thus applied, she sat on deck. She felt some benefit from the application, and at length went down to the cabin, where the bag was properly applied. Meanwhile she vomited two or three times. But after having the ice along the whole spine, and lying upon it, both her sickness and headache ceased entirely, and she became well, talking freely and cheerfully. After the bag of ice was melted she began once more to feel ill; a second bag was then applied, when she speedily became quite well again, and reached Dieppe continuing so."

II. "June 11, 1864. Miss C., a young lady aged about twenty-one, finding Mrs. G. had been thus relieved, asked to have the benefit of the ice. She was lying down, very sick, and complained especially of acute headache. She was laid on a bag of ice—the bag being next the skin. Her head became quite free of pain in a few minutes; after her head had become well and she had had the ice on about ten or fifteen minutes, she vomited once more, and then, still lying on the ice, fell asleep. In about half an hour she awoke quite well and continued so thenceforward."

III. "In the latter part of 1865, Mrs. Charles Darwin wrote to me that her son had recently experienced the benefit of the spinal ice-bag, while passing from Holyhead to Ireland, 'on a rough morning.' She said, 'He is very subject to sea-sickness, and is convinced that without the ice he would, on this occasion, have been very bad. He put on the bag soon after starting, when already disordered, and at once felt relief.'"

The above cases are certainly of interest, serving, as they do, to exhibit the excellent results which often attend the application of ice to the spine in sea-sickness. Were the results subsequently obtained by ship-surgeons reasonably uniform, we should unquestionably possess in the spinal ice-bag a remedy of the greatest importance, and one capable of the most extended employment. As it is, the accounts furnished by different observers have been, to say the least, conflicting; so that few medical men of experience at the present day continue to entertain the sanguine anticipations which prevailed upon the introduction of the ice-bag into the therapeutics of sea-sickness. But, while we can no longer regard the refrigeration of the spine as of itself a specific against sea-sickness, it must be admitted that the ice-bag, when employed with other remedies, constitutes a valuable adjunct in the treatment of the affection.

Of the remedies which may with advantage be employed in conjunction with the spinal ice-bag, it now remains to speak. They are such as tend to diminish the irritability of the central nervous system on the one hand, and such as tend to prevent the transmission of impressions through the stomach by causing anæsthesia of the gastric mucous membrane. In the first category belong the bromides; in the second, the preparations of erythroxylon (coca). The preparation to which I give preference is the fluid extract known in the shops as Thé Mariani. To the fluid extract I sometimes add the hydrochlorate of cocaine where pronounced local effects are desired.

According to Beard*, Dr. Barker has prescribed moderate doses of the bromides during the attack; but the same author is authority for the statement that the late Dr. F. D. Lente was the first to suggest the employment of these remedies as a preventive of sea-sickness, by their administration before embarkation. The dose recommended by Dr. Lente was, I believe, thirty grains. Subsequently Beard,* when discussing the applicability of the bromides in the treatment of sea-sickness, lays particular stress upon the fact that the dose is not so much a matter of consequence as the physiological effect—*bromization*. On this point I entirely agree with him, as well as in his statement that, "for nearly all the members of the human race, above the age of twelve or fifteen, it is probably entirely safe to begin with thirty grains of bromide of sodium, and to increase and keep up the action of the remedy until there is a weakness of the limbs, a dullness, a stupor, a tendency to sleep by day and by night, to fall to sleep easily at any time, which indicate that the system is becoming bromized, that is, in a state where there is little likelihood of being sea-sick. In some cases a feeling of great weakness comes on before the disposition to sleep." This is the *multum in parvo* of the whole question of *bromization* in sea-sickness—a method of treatment which caused some little stir in the profession not many years since. Instead of giving the sodium salt alone, I have been constrained to try a solution consisting of equal parts of the bromide of potassium, lithium, sodium, and ammonium. I usually begin with twenty or thirty grain doses, and continue the administration of the salts until the characteristic physiological effects are obtained. It is clear that the central nervous system, when in the peculiar condition incident to bromization, must be more or less exempt from the influence of external impressions. Consequently, the pitching and rolling of the vessel fail to cause those perturbations in the domain of the brain and cord which, under ordinary circumstances, culminate in the characteristic phenomena of sea-sickness. Therefore, aside from the purely clinical phenomena of the affection, we have, in the prophylactic influence of the bromides, convincing corroborative evidence that the primary disturbances of the affection are, in truth, to be sought for in the central nervous system. It is clear, however, that, admitting this to be the real state of the case, impressions may be transmitted from the viscera, and more particularly from the stomach, which give rise to the central disturbance.

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* "A Practical Treatise on Sea-sickness: its Symptoms, Nature, and Treatment," by George M. Beard, M.D., etc.; New York, 1880. p. 31.

To my mind such a supposition offers ample explanation for the failures which sometimes attend the administration of the bromides, particularly when given in moderate doses. Guided by this line of reasoning, I determined, soon after the local anæsthetic effects of cocaine upon mucous surfaces had been ascertained by Koller, to test the efficacy of coca preparations as a means of diminishing the extreme sensibility of the gastric mucous membrane in sea-sickness. It appeared to me clear that, if we could but remove or diminish the irritability of the stomach, thus preventing or modifying the transmission of impressions to the central nervous system, and at the same time render the latter obtuse to all excitations emanating from the peripheral nervous apparatus, a great stride would be accomplished in the treatment of sea-sickness. To this end, I have recently resorted to the expedient of giving the bromides in sufficient quantities, before embarkation, to obtain well-marked physiological effects, *and have supplemented their action by the copious administration of the extract of coca upon the departure of the vessel.* The administration of both remedies was continued throughout the entire duration of the voyage, though it is probable that the doses of each might have been materially reduced had I been able to watch the effects of the remedies in person.

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*Op. cit., p. 34.

From the accounts furnished me by the persons who, at my suggestion, resorted to the above method of treatment, I am convinced that much may be expected from it in future, provided the patient be placed under the immediate supervision of a competent medical attendant. This is the more necessary from the fact that many persons are of a timorous disposition, and upon the first appearance of the characteristic effects of the bromides either reduce the dose to an inordinate degree or abandon their use altogether. On the other hand, certain adventurous spirits are sometimes encountered, who, disregarding all premonitory symptoms persist in taking enormous doses of the remedies, until checked by the appearance of phenomena of grave intoxication. Therefore, unless the patient be gifted with a high degree of perspicacity, it is better not to trust to individual intuition in matters of treatment.

I will only add that the addition of the spinal ice-bag sometimes renders valuable service in the case of persons of unusual plethora; my own experience has, however, taught me this much, that, however efficacious it may prove in certain cases, it only admits of extended employment when used in conjunction with the bromides and coca preparations. Whether the good effects of the latter remedy in sea-sickness are in part due to its influence on the central nervous system, I have never had occasion to determine.

A remedy which, without possessing the local anæsthetic properties of cocaine, resembles the latter in so far as its effects upon the central nervous system is concerned, is caffeine. Citrate of caffeine has been recommended in the treatment of sea-sickness, particularly with a view to alleviating the distressive headaches from which so many persons suffer while at sea. It should be prescribed in the form of a fine powder, in doses of from one to three grains. I quite agree with the late Dr. Beard, that many of the failures with caffeine result from timidity in its use; so that while in exceptional cases it may be well to begin with doses of half a grain, the majority of individuals will require from two to three grains, in order to produce any appreciable effect. Since, however, the preparations of coca resemble, to some extent, in their physiological effects those of caffeine, the former remedy may, in most instances, be substituted for the latter with advantage. The amount of coca required, in order to produce appreciable effects is moreover relatively small, and as we have already had occasion to observe, its local effects upon the stomach are most beneficial.

Chloral, when combined with the bromides, often yields good results in cases of obstinate insomnia at sea; it may be given *per orem or per rectum*, according to the condition of the stomach.

Atropine has been employed by Dr. Beard in the form of hypodermic injections, in doses of from one two-hundredth to a twenty-fifth of a grain, with a view to supplementing the action of the bromides, when the latter have been employed in moderate or insufficient quantity, or where, from any cause, there is nausea, vomiting, and inability to keep any food on the stomach. I have no experience whatever bearing on the matter; but, from the statistics adduced, the method would seem to recommend itself in extreme cases.

Cannabis indica has been highly recommended by some writers as a substitute for caffeine. In the insomnia, headache, and irritability, which are such frequent attendants upon a voyage at sea, it frequently renders good service. I usually give it in the form of the extract, in doses of from one-fourth to one-half a grain.

Although the results obtained from appropriate treatment are usually brilliant, sea-sickness, like some other forms of functional derangement, occasionally defies all the resources of the pharmacopœia. The physician should, therefore, be on his guard not to arouse too sanguine expectations nor to look upon any system of treatment as absolutely infallible.

26 West 47th Street.

ARTICLE II.

A CASE OF MENINGEAL EXTRAVASATION, WITH REMARKS ON THE LOCALISATION OF THE SUPERFICIAL LESIONS.* BY ALFRED LUDLOW CARROL, M. D., NEW BRIGHTON, STATEN ISLAND, N. Y.

The ordinary trains of peripheral symptoms leading to the localization of intra-cranial lesions are almost hackneyed by frequent repetition; but the following case offers some peculiarities which it may be of interest to discuss:

P. M., aged 55, a blacksmith by occupation, of stout and powerful frame, was suddenly attacked with loss of conciousness at about midnight on the 20th of August, 1882. To make a connected history of what I learned at the time and subsequently, he had been in early life, and up to a date presently to be mentioned, an exceptionally healthy, vigorous man, a daring rider, accustomed to active, open-air pursuits, a hearty eater, and, though not a drunkard, rather less than temperate in his habits as regarded the use of alcohol. No history of syphilis. Had sustained several injuries to head at different times in riding and horse-shoeing; but, like Jack Bunsby, was so used to it that no particular solution of continuity had impressed itself on his memory.

About eight years previously he had suffered from a mastoid abscess on the left side, and was ill for some weeks; since then has been completely deaf in left ear. He could not recollect whether this abscess followed an injury or not.

Living in a low, undrained, clayey situation, he had lately been subject to muscular rheumatism, and had undergone several attacks of intermittent fever, but showed no signs of malarial anæmia, being an exceedingly florid and remarkably well nourished individual.

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* A paper read before the New York State Medical Association, Fifth District Branch, at Yonkers, N. Y., March 23, 1886.

For a few days prior to his seizure he had been constipated, and complained of headache; but was not unwell enough to prevent his working, and on the evening of the attack was in good spirits. The "stroke" had occured, as I was informed, just as he was getting into bed. When I saw him, about half an hour afterward, he was conscious, but somewhat wandering in his mind; hands markedly tremulous; pulse irregular and intermittent; pupils contracted; temperature 100; feet cold; speech thick and stammering; had vomited two or three times; complained of intense headache and vertigo; had constant and distressing singultus.

On the following morning he was drowsy, with headache and vertigo continuing; pupils less contracted; sight dim. Tongue protruded straight. Pulse irregular and occasionally intermitting; temperature 99°. Hiccough incessant. Anæsthesia and formication of fingers, most on right side, and a "numb feeling," accompanied by cutaneous anæsthesia, over the bridge of the nose and left side of the head. There was no perversion of sensation or motion in the lower extremities, but the bladder was paralyzed; urine free from albumen. Snored stentorously while sleeping. Complained that everything tasted salt. Dynamometer indicated, with right hand 49, with the left 50, (representing, with the instrument used, 39 lbs. and 40 lbs. respectively.)

For some days there was but little variation in the symptoms save an almost imperceptible improvement. The temperature became normal after the second day; the pulse resumed regular rhythm. Anæsthesia of fingers and slight paresis of arms continued, as did singultus, obstinate constipation, and vesical paralysis; headache from supra-orbital notch to vertex; articulation thick, but no aphasia; vision obscured; pupils sluggish; appetite good. Dozing often during the daytime.

On the 26th the hiccough ceased, afer having lasted almost incessantly for six days; anæsthesia of fingers had somewhat diminished, and the articulation was more distinct. The next day he expressed himself as feeling much better, but still complained of numbness over bridge of nose and left side of scalp, and of the "salt" taste of everything he ate and drank. Sleep natural at night, and but little drowsiness in the day. Urine diminished in quantity (about a pint in twenty-four hours), but free from albumen. On the 28th the "salt" taste had changed to an intensely bitter one; the headache was much relieved, but vertigo and "lightness" of head persisted, even in the recumbent posture. Had vomited twice. Urine about 14 oz. On the 30th, there was a dizziness only on raising the head; the urine for the preceding twenty-four hours was a pint and a half, increasing steadily up to September 6th, when, for the first time in 17 days he passed water without catheterism, and the bowels were moved without laxatives. Vision still dim, "choked discs" on both sides; dizziness on rising and numbness of fingers persisted. On face and brow, chiefly on left side, a sensation as if the skin were "rough and prickly," with some itching. Muscular strength of hands greatly improved; articulation quite restored.

From that time up to the latter part of October, when he passed from my professional notice, his improvement was slow but steady, except as regarded vision, which still remained indistinct. He could recognize people across the road, but could not read the largest print, nor judge of distances accurately. The pupils were rather small and sluggish. There was yet some giddiness, especially on rising, and the anæsthesia of the brow and hands remained to some extent. The appetite was good, the bowels regular, urine passed normally, and sleep natural.*

The phenomena above recounted are apparently traceable to an origin in a limited area bordering on the pons and medulla oblongata. The probable etiology of the disorder is that in his earlier illness the mastoid lesion led to thrombosis of the inferior petrosal and transverse sinuses, perhaps with phlebitis sinuum; possibly with some basilar meningitis; thus leaving special vulnerability in the region about the basilar groove. There may even have been at that time a pachymeningitis interna, which would predispose to a subsequent hæmorrhage. Such a supposition would be the more plausible if the mastoid inflammation were the result of an injury; but in view of the impossibility of obtaining any definite account of the beginning or course of the disease, his former medical attendant having died, all this is a matter of surmise. Although an involvement of the petrous bone is commonly spoken of as an almost necessary antecedent to a phlebitis in this situation, it must be remembered that the opening of the mastoid vein into the inferior petrosal sinus may explain a more immediate extension from the mastoid cells. The influence of more or less chronic alcoholism should not be left out of consideration.

There can be little doubt that his latter seizure was caused by a meningeal extravasation of small amount in the situation which has been indicated, with probably subsequent coagulation and organization. It will have been noticed that, aside from the first cerebral commotion arising from the momentarily increased pressure, the prominent symptoms concerned the functions of the fifth, eighth, and ninth cranial nerves, neither the fourth, sixth, nor seventh being implicated; moreover, in the case of the eighth pair, the spinal accessory escaped disturbance. The facial dysæsthesia was most marked over the distribution of the supra-orbital and supra-trochlear branches of the ophthalmic division of the fifth, which passes through the sphenoidal fissure, running along the outer side of the cavernous sinus below the other nerves; the ciliary nerves are affected thorough the branch communicating with the ophthalmic ganglion. The

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* At the present date (March 20, 1886), the strength of the arms is restored, but he has occasionally a sensation of "numbness" in the fingers; giddiness is of frequent occurence, especially on rising from a chair or stooping, but there is no headache; he has some facial anæsthesia, varying in degree at different times, and chiefly in the frontal region. There is double hemiopia with loss of vision in the right field on both sides; with the left eye he can read with convex glasses; with the right he can barely do more than count fingers; in the casual interview which I had with him, I could not ascertain the ophthalmoscopic appearances. He complains of "rheumatic" pains in his legs which interfere with his walking, but whether these are temporary results of his damp domicile or in any way attributable to descending lesions of the cord, I cannot now say. In other respects he expresses himself as being as well as before his illness.

peculiar subjective derangements of taste are probably to be ascribed altogetl
to the glosso-pharyngeal, without supposing any lesion of the gustatory brar
of the inferior maxillary or corda tympani, as the perception of saline and bit
flavors appears to pertain to the posterior and lateral parts of the tongue, su
plied by the former nerve. The disturbance of articulation is, of course, referal
to the hypoglossal, but here also there was no involvement of the muscles innerv
ted by the decendens noni. If the superficial origins of the nerves concern
and their relations to the transverse sinus, be remembered, this selective localiz
tion becomes, to some extent, explicable. The third pain arising from the inn
surface of the crura, above the pons; the fourth, from the valve of Vieussens a
curling aroundthe crura, also in the groove above the pons; the sixth, emer
ing from the furrow between the corpora pyramidalia and the lower border
the pons; and the seventh, springing from the posterior median fissure and t
groove between the restiform and olivary bodies, and curving around the res
form colums in the depression between the medulla and pons; all these are
great degree shielded from pressure or local irritation. On the other hand, t
fifth makes its exit from the antero-lateral convexity of the pons, close to t
margin of the basilar groove; the glosso-pharyngeal and pneumogastric, wi
the small accessory root of the eighth, from the lateral tract, just behind the co
pus olivare, and the hypoglossal from the groove between the olivary body a
the anterior pyramid, in situations much more exposed; while the spinal ro
of the eighth takes its origin almost entirely below the foramen magnum.

Another circumstance which points to a localization about the transver
sinus is that, while the facial anæsthesia and dysæsthesia were chiefly on t
side of the former mastoid lesion, the muscular and sensory disturbances throu
the brachial plexus, though bilateral, were most marked on the opposite sic
simulating in a lesser degree the phenomena of "crossed palsy," which is usual
caused by graver changes in the lower part of the pons on one side. If v
imagine a source of pressure originating on the left side and extending alo
the line of the cavernous sinus and across the transverse groove, we shall ha
the conditions to account for these peripheral manifestations. Experience h
shown that in lesions about the pons, even though apparently involving the a
terior or motor portion, irregularly distributed diminution of sensation in tl
extremities is apt to occur. The sensory tract runs in the posterior third of tl
intenal capsule, but some of its fibres, at all events, radiate to the hippocamp
and uncinate convolutions, at the inner part of the base of the inner lobe,
which Ferrier's researches locate the tactile cortical centre. The circulatory ar
respiratory irregularities may have been due partly to paresis of the inhibito
nerves, partly to indirect irritation of the sympathetic. Vaso-motor and resp
ratory centres are apparently situated in the pons and upper portion of tl
medulla, and the afferent paths leading from them manifestly are affected b
lesions of the cervical part of the spinal cord, but it is probable that the impuls
thus conveyed are rather of a reflex character, through afferent filaments of tl
pneumogastric. The glosso-pharyngeal, pneumogastric, and hypoglossal con

municate with the carotid plexus and cervical ganglia, from whence the cardiac nerves emerge, and it is likely that the motor innervation of the heart was reached through this collateral channel. The pathogeny of the persistent hiccough is more difficult to understand, although we know empirically that this symptom and vomiting are commonly associated with pressure upon the pons or upper part of the medulla, and that where it has a different central origin it is often from disease of the cervical cord whence the phrenic nerves arise. In the present instance its causation is probably to be sought in a reflex from centripetal strands of the pneumogastric. Though the distinction is not drawn in our text books, it is to be remembered that of the various respiratory spasmodic actions, sobbing and hiccough are the only ones which are purely inspiratory, i. e., involving the diaphragm alone; others, such as coughing, sneezing, laughing, etc., calling into play associated muscles with different nerve-supply. Another characteristic of hiccough is that the involuntary inspiratory effort is checked by a sudden closure of the glottis, a convulsive contraction of the lateral crico-arytænoid and arytænoidal muscles, which receive their motor impulse from the inferior laryngeal branch of the pneumogastric.

In relation to the retention of urine, it must be remembered that the vesica sphincter is habitually in a state of contraction, governed by its tonic centre in the cord at the level of the origin of the 2d to the 4th sacral nerves, the centre for the detrusor being just below; and that normal micturition is largely a reflex action, the part played by the voluntary system being chiefly to inhibit the automatic control of the sphincter. In lesions of the lower cord alone, both of these spinal centres are apt to be paralyzed, so that incontinence is associated with the detrusor palsy. It is possible that cerebral impulse may stimulate the detrusor centre to contract the bladder, and it is certain that volition can reinforce the tonicity of the sphincter, even when the bladder is painfully distended, but it is evident, as has already been said, that the main influence from the will-centres is of an inhibitory kind to relax the neck of the bladder. Hence, pressure along the anterior motor tract of the mesencephalon may account for this isolated vesical paralysis without paraplegia or other implication of parts supplied by the lumbar or sacral nerves.

The "choked disc" used to be regarded as almost pathognomonic of intra-cranial tumor, and may arise from any cause which obstructs the circulation in the ophthalmic vein, as would be the case in pressure along the cavernous sinus In basilar meningitis this is a common symptom, though there Hammond ascribes it to a descending neuritis by extension from the membranes to the nerve. The lapse of time before the appearance of the papillary engorgement in the instance under consideration points rather to venous obstruction, such as arises from tumors at the base of the brain.

Notwithstanding the immense advances of our knowledge of the patho-physiology of cortical and intra-cerebral lesions, comparatively little attention has been attracted to localized superficial interference with nerve function, and the paucity of observations in this respect may serve as an excuse for submitting to discussion a plausible commentary on the phenomena of a case the bare recital of which would possess but small interest. Moreover, in view of the usually greater volume, or recurrence of meningeal extravasations, and the consequent rarity of recovery or opportunity to observe local results, the absence of a post-mortem verification of the hypotheses advanced will not, I trust, be regarded as an unpardonable defect in the management of the patient.

ORIGINAL TRANSLATIONS.

APROPOS OF SIX CASES OF HYSTERIA IN MAN. M. CHARCOT. Translated from the *Progrés Médical* by H. McS. GAMBLE, M.D., Moorefield, West Va.

FIRST LECTURE, PART II.

Gentlemen :—The cases that we are going to consider at present, are in several respects, in some sort an imitation of the preceding, and this will relieve us of the necessity of entering upon very long developments in their regard.

Case 2.—A man named Gil—, thirty-two years old, a metal gilder, was admitted to the Salpêtrière in January, 1885. Nothing very particular is discovered in the *hereditary antecedents*. His father, who was very violent, died at sixty years of age after a paralysis supervening without a fit. His mother, who died tuberculous, was nervous, but had never had any fits.

The personal antecedents are much more interesting to study. At the age of ten years he was a somnambulist. Since his infancy he has been afraid in the dark, and at night he is subject to hypnogogic hallucinations and nightmare. From an early hour he abused coitus ; he feels from time to time a sort of irresistible impulsion toward women. It has often happened to him to run suddenly to see a girl, to come back then and resume his work. He is, beside, a frenzied masturbationist. He is, however, intelligent ; he is a skilful workman, and he learns easily ; when not at work he plays upon the violin and the accordeon. He is fond of the theatre ; yet, of a rather sombre and taciturn nature, he usually seeks solitude.

His occupation, in which mercury is used, has never produced in him any symptoms that could be attributed to mercurial intoxication. No signs of alcoholism ; no syphilis. The first fit occurred at the age of twenty years, without any known cause. He was upon the top of an omnibus when he felt the first warnings. He had time to descend, and the convulsive attack took place in the street. The attacks then returned pretty frequently. He has counted at times as many as four or five a month. It appears that, at that time, he urinated under himself in several fits. The convulsive attacks had for several years become much less frequent and were recurrin
long intervals, when, in 1880, the patient was the victim of a noc
sault. He received a blow from a knife upon the head in the rig
region, fell unconscious, was robbed and left for dead upon the

was taken up and carried to the Charité in the service of M. Gosselin, where he remained three or four days without consciousness. An erysipelas developed a few days after around the wound of the head produced by the blow, and it was at the time of recovery that there began on intense cephalalgia of a peculiar character, which persists to this day.

For a long time following this accident he remained plunged into a sort of hebetude from which he emerged only little by little, and very incompletely at that, for since that time, even on his best days, it is impossible for him to work, to give his attention to anything, and even to read with any order. So he soon fell into a state of misery. Besides, the attacks which for a moment had made a truce, re-appeared then more intense and more numerous than before ; that was why, in February, 1883, the patient presented himself at the Hotel Dieu, where he was admitted. He remained there until March, 1884.

It was there that the complete, absolute, left hemianæsthesia which we find again to-day, was for the first time observed. The attacks, then frequent and considered, it appears, by those on duty as proceeding from the comitial disease, were, for thirteen months treated by large doses of bromide of potassium without the least amendment.

When the patient was admitted to the Salpêtrière in January, 1885, we observed as follows : The general state of health, as far as concerns the functions of nutrition, appears pretty satisfactory. He eats well and is not anæmic. Per contra, we are not long in recognizing about him a very marked psychical depression. He is sombre, taciturn, distrustful ; he seems to avoid the looks of others, and seldom visits the other patients. He does not give himself up to any occupation, to any diversion during the day. The hemianæsthesia of the left side already noticed at the Hotel Dieu is complete and absolute as far as concerns the common sensibility. The sensorial disorders of this same left side are also very clearly defined. On this side, in fact, notable obnubilation of the hearing ; complete loss of smell and taste ; in the left eye complete achromatopsia regularly observed by M. Parinaud, and extremely pronounced contraction of the visual field for white light. Contrary to what takes place in the majority of cases of this kind, the extent of the visual field and the idea of colors are absolutely normal on the right side. There is besides not a trace of a lesion of the fundus of the eye either on the right side or on the left.

He complains constantly of an intense, heavy, or rather constrictive, general headache, occupying the occiput, the top of the head, the forehead, and, above all, the temples, where it is more pronounced upon the left side than the right. It seems to him that he is wearing a helmet on his head, heavy and tight, which encloses and compresses it. This permanent headache, as we have remarked, is notably aggravated a little before and after the fits. It is especially aggravated when the patient gives himself up to the least occupation ; when, for example, he wishes to read or to write a letter, The attacks which we have many times witnessed when on duty present the following characters : they may be spontaneous or provoked, and in both cases they differ in no essential feature. Three hysterogenic zones have been discovered. Two of them occupy the intra-mammary region on the right, and on the left side ; the third is found in the right iliac region ; on this side, however, pressure upon the testicle and the cord produces no abnormal sensation. When one presses lightly upon the hysterogenic plaques, the seat of which has just been indicated, the patient immediately experiences all the symptoms of the cephalic aura, to wit, pulsations in the temples, singing in the ears, vertigo, etc. But, little as one may persist, the attack supervenes to a certainty very rapidly. A few spasms of an epileptoid nature, of slight duration, inaugurate the scene. They are soon followed by divers contortions and grand movements of salutation, interrupted from time to time by the attitude *en arc de cercle* ; during this time the patient incessantly utters savage cries. A convulsive laugh, tears and sobs terminate the attack. Upon waking, G—— does not preserve any recollection of what has passed. The hsyterogenic points are, in his case, but very incompletely spasmo-frénateurs; when they are compressed during the attack the latter is suspended for an instant, but it soon resumes the course of its evolution. Provoked or spontaneous, the attacks are repeated, in general, successively for a certain num- of times in such a manner as to constitute a series ; never in such a case has the rectal temperature been higher than 37.8 (C).

After the preceding abridged description, you will recognize the fact that the case of G—— approaches very nearly to that of Rig—— (first case), from which it differs only in a few details. In both cases there are the same hysterical stigmata, the same melancholic tendencies, the same characteristic attacks, with this single peculiarity relative to G—— that with him the aura evolves with great rapidity, and that in the fit, the emotional attitudes are wanting. These are now the few differences which it is proper to notice in regard to the second case.

We have said that in some of his attacks G——bites his tongue and urinates under himself. The fact has been clearly demonstrated by us. We had been led for a moment to believe, after that, that in his case it was a question of hystero-epilepsy with distinct crisis, to wit, true epilepsy on one side, grand hysteria on the other, showing themselves under the form of separate attacks. A more attentive examination has convinced us that such was not the case. All the attacks in G—— have the character of grand hysteria, and it is during the course of these attacks that he sometimes bites his tongue and sometimes urinates under himself. But the biting of the tongue, and the involuntary emission of the urine are not, far from it, univocal characters of the comitial disease. These symptoms may be observed in hystero-epilepsy, devoid of all complication of comitial disease. The fact is rare in truth ; I have seen and published, however, a certain number of perfectly characteristic examples of it.

In closing with what concerns this case, I will call your attention to the cephalalgia with which G—— suffers in a permanent manner, but which is aggravated to a certainty however little he busies himself about the least occupation. With all the particularities that we have mentioned above, cephalalgia of this kind does not belong to the tableau of hysteria ; it is, on the contrary, met with, so to speak, necessarily in the neurasthenic neurosis (neurasthenia of Beard), of which it constitutes one of the predominant characters, and in which is likewise observed the physical and mental depression which is present in such a high degree in our patient. I have taken care to show that, with him, these different symptoms were produced in consequence of the blow which he had received upon the head: So, gentlemen, the neurasthenic state, with the whole ensemble of the phenomena which Beard assigns to it in his remarkable monograph, is one of the nervous affections which develop most frequently in consequence of *shock*, especially in railroad accidents. Several of the cases reported by Dr. Page testify to this ; I have, for my part, met with two examples absolutely similar to those published by this author, and of which one concerns one of our confrères of Paris. According to that, there is reason to admit, I believe, that two quite distinct elements co-exist in the case of our patient, G——. In the first place, the neurasthenic state, the immediate and direct consequence of the shock to which he was a victim three years ago ; in the second place, hystero-epilepsy, with the whole cortege of phenomena that characterizes it. The latter existed before the accident, but it has become considerably aggravated since, as you will be able to judge by referring to the details of the history.

I come now to the examination of a third patient, who, besides, enters exactly, as I have announced to you, into the same category as the two preceding.

Case 3.—The man whom you have before you is named Gui—, aged twenty-seven years, by profession a locksmith. He was admitted the 20th of February, 1884, into the wards of my colleague, Dr. Luys. Of his relatives he knows only his father, who died at the age of forty-eight years, a confirmed drunkard ; and his mother, who is still living and appears to have never suffered from nervous affections. He has had seven brothers and sisters ; only one of his brothers is living, he has never been sick, it seems, and is not nervous.

Towards the age of twelve or thirteen years G—— became very cowardly. He could not remain alone in a chamber without experiencing a feeling of anxiety. At school he learned readily, and later, towards the age of seventeen or eighteen years, he showed himself skilful and intelligent in his profession. Several times, in the competitions of lock-making, he has even obtained medals. Unfortunately, about that time, an immoderate inclination to women and drink developed themselves. He worked during the day like his comrades, but, the day ended, it often occurred to him to go to the ball and to spend the night at the wineshop or with girls. These excesses were repeated from time to time several times a week. They naturally deprived him of necessary sleep. Yet they did not seem to fatigue him very much, for the next day he would return to his work and acquit himself creditably.

At the age of twenty-one years, in 1879, during one of his nocturnal expeditions, he received a blow from a knife which entered the left eye. He was immediately carried to the Hotel Dieu, in the service of M. Panos, who shortly afterwards practiced enucleation of this eye. Upon leaving the hostal, G—— soon resumed his disorderly life.

Dating from the commencement of 1882 it often happened that, at the moment of closing his eyes to go to sleep, he thought he saw a monster with a human face advancing toward him. Frightened, he would utter a cry, open his eyes, and the vision would disappear, but only to return again immediately that he closed his eyelids. He fell then into an extremely painful state of anxiety, and often he remained thus a part of the night without being able to go to sleep.

These hypnogogic hallucinations had continued about six months already, when in July, 1882, he was the victim of a new accident more terrible than the first. Engaged in placing a balcony on the third story of a house, when he, perhaps, was drunk, he fell into the street, upon his feet, as he affirms. At any rate he was unconscious for more than an hour. Upon coming to his senses he had himself carried again to the Hotel Dieu and placed in the care of Professor Panas. It seems that the existence of a fracture of the cranium was then feared. Nevertheless the cure was not very long in being accomplished, and, after two months, the patient was able to return home. Soon after this the frightful nocturnal hallucinations re-appeared anew, and a little later the spasmodic attacks began to manifest themselves for the first time. The latter were not at first as characteristic as they became subsequently. They consisted above all in attacks of vertigo, supervening all at once and followed by rigidity, then trembling of the limbs. There was no loss of consciousness. They were, besides, not very frequent.

Matters remained thus for nearly eighteen months. At the end of this time the prescriptions given by different physicians consulted having been without effect, G—— determined to enter the Salpêtrière (service of M. Luys.)

Soon after admission G—— became subject to frequent fits of abdominal and gastric colic, followed by a feeling of constriction in the pharynx, and soon by vomiting which took place without effort. These symptoms, which had not yielded to any treatment, ceased all at once at the end of about six weeks. Near this time was recognized the presence of right hemianæsthesia and also of the peculiar trembling of the right hand which we are going to consider in a moment.

In January, 1885, in consequence of a change of personnel, the patients of M. Luys passed into our charge, and it was then that I saw G—— for the first time. He is, as you know, pretty well muscled, vigorous; his general state appears satisfactory. The mental condition has really presented no great anomaly. The hypnogogic hallucinations have, for more than a year, nearly completely disappeared. G—— is not sad; he converses willingly with the other patients, and renders himself useful in the ward.

The hemianæsthesia is complete, absolute on the right side, and neither contact nor pricking are perceived on this side of the body. The organs of sense are likewise profoundly affected on the same side; the hearing, the smell, and particularly the taste. As regards the organ of vision, methodical examination reveals very characteristic changes. On the right side--you have not forgotten that the left eye is wanting—the visual field is extremely contracted. Red alone is perceived by this eye, and the circle of this color is reduced to almost a point.

The trembling which has already been mentioned above, and which occupies the right hand, is remarkable for the perfect regularity of its rhythm, as demonstrated by help of a registering apparatus. It consists in oscillations the number of which is on an average five per second.

In this regard it holds consequently the medium between the trembling with slow oscillations, such as that of paralysis agitans for example and the vibratory tremblings, or, in other words, the rapid oscillations of general paralysis and of the disease of Basedow. It is not exaggerated under the influence of voluntary movements. The patient can make use of his hand to drink or eat, and can even write very passibly, upon condition only of bearing strongly with his left hand upon his right wrist, a manœuvre which causes the trembling to cease for a moment. The muscular sense is perfectly preserved for the whole length of the right upper limb.

The sole hysterogenic zone discovered in G—— occupies the testicle, and the course of the spermatic cord as far almost as the right groin. The skin of the scrotum on this side is very sensitive, and when it is pinched a little strongly, the same effects exactly are produced as when either the testicle itself or the cord is compressed, that is to say, either the development or, on the contrary, the arrest, of the attack, according to circumstances.

These attacks, whether they be spontaneous or provoked by the artificial excitation of this hysterogenic zone, are always preceded by a perfectly characteristic painful sensation of *aura*, which, taking its point of departure in the right testicle, ascends towards the epigastric and cardiac regions, then to the throat, where it determines a strong constriction, and finally reaches the head, where ringing sounds are produced, especially in the right ear, and throbbings, principally in the temple of the same side. The patient then loses consciousness completely ; the epileptoid period has commenced ; at first the trembling of the right hand is increased and is precipitated, the eyes are rolled up, the limbs extend, the fists are clenched, and then are twisted into exaggerated pronation. Soon the arms approach each other in front of the abdomen by reason of a convulsive contraction of the pectoral muscles. After that comes the stage of contortions, characterized above all by extremely violent movements of salutation which are intermingled with inordinate gestures. The patient breaks or tears everything that happens to be within reach of his hands. He assumes the oddest poses and attitudes, so as to fully justify the denomination of *clownism*, which I have proposed to designate this part of the second period of the attack. From time to time the contortions above described cease for a moment in order to give place to the very characteristic attitude called "arc de cercle." Sometimes it is a veritable opisthtonos in which the loins are separated from the plane of the bed by a distance of fifty centimetres, the body resting only upon the vertex and the heels. At other times the bow is formed in front, the arms crossed upon the chest, the legs in the air, the trunk and head elevated, the buttocks and the loins alone resting upon the bed.

Finally, sometimes in the attitude of the *arc de cercle*, the patient rests, it may be upon the right side, it may be upon the left. All this portion of the attack, is, in the case of G—— perfectly beautiful, if I may express myself thus, and each one of these details deserved to be fixed by the process of instantaneous photography. I show you the figures which have thus been obtained by M. Loude. You see that, from an artistic point of view, they leave nothing to be desired ; but they are also very instructive for us. They show us, in fact, that as far as concerns the regularity of the stages, and the typical character of the different attitudes, the attacks in G—— yielded in nothing to those we observe every day among our most classical hystero-epileptics of the female sex ; and this resemblance deserves so much the more to be noticed as that G—— has never entered the dormitory in which are placed the women "en attaques," and therefore the influence of contagious imitation could not be invoked in his case.

The stage alone of hallucination and emotional attitudes is habitually wanting in G——'s case.

A few times only we have seen towards the end of the fit his physiognomy alternately express fear and joy at the same time that his hands remained in the air as if seeking an imaginary being.

The end of the attack is in our patient often marked by a sort of motor aphasia which in general does not last more than eight or ten minutes, but which once persisted for nearly six days. Then when the patient wishes to speak, a few hoarse, inarticulate sounds alone escape from his mouth, he becomes impatient, is agitated, but succeeds, however, in making himself understood by very expressive gestures. It has even happened several times to him in such case to take a pen and write a few very correct sentences.

This is enough upon this perfectly classed case in all respects. But we have not yet finished with hysteria in men. We shall find it again in the next lecture, quite as characteristic, in three other patients of the clinical service, as in the preceding cases.

LECTURES.

THE SAYRE METHOD OF TREATMENT—RESULTS OBTAINED IN THE GENERAL HOSPITAL IN HAMBURG.

A Clinical Lecture Delivered Before the Hamburg Medical Association, Nov. 3, 1885, *by* DR. NEBEL.

Translated for GAILLARD'S MEDICAL JOURNAL by the Rev. F. H. Kerfoot, D.D., from the *Deutschen Medicinischen Wochenschrift* (No. 5, 1886), edited by Dr. S. Guttman.

The earlier experiences with the plaster-of-Paris jacket were, in general, unsatisfactory. This was because of the incorrect estimate formed as the result of the many misunderstandings concerning the designs of the author; also because our skill in the application of the plaster-of-Paris bandages was far behind that of Professor Sayre. Thanks, however, to the enthusiasm and kindness of a friend of Dr. Sayre's—Dr. Phelps—who has recently spent several months here, and who, as guest of this Association, has lectured concerning his method of treating club foot, the Sayre bandages have been again introduced, first in this hospital, and from here over Germany.

I cannot now, for want of time, enter into the particulars of this treatment and its prosecution (history). These have been fully described in the *Wochenschrift* of 1885, Nos. 6, 7, and 8. I desire, however, to call attention to two specially important points. The first of these is that Professor Sayre has always earnestly recommended that the patient be stretched by means of drawing the head upwards with great care, and with as little inconvenience as possible, and this only so far as to secure relief from pain, but never far enough to produce pain. He has absolutely never proclaimed the principle, as has been asserted by some, that the greatest possible extension should be brought about which can be secured through the free swinging of the whole weight of the patient's body. On the other hand, he has stated most clearly that his purpose is simply to bring about so much gradual extension of the curved spinal column as is sufficient to relieve the diseased part from all painful pressure, and then, by means of the plaster-of-Paris bandages wound about the body, to give it such fixation as will keep the patient in the position of the utmost possible comfort. His aim is to bring the patient as nearly as may be into an upright position, but not, as has been so often believed, to *stretch* the diseased back.

A second point, which has been too little regarded, is that Professor Sayre has recommended something more than the simple fixation of the body by means of an enveloping plaster-of-Paris jacket, which, by the way, can be of little use when the disease is high up in the spinal column. Actually good results by means of the Sayre system of treatment are only possible, according to the idea of the author of this system, with the help of the "jury-mast" apparatus; that is, an arrangement which secures a permanent extension by the uplifting of the head. This apparatus is ordinarily necessary where the seat of the caries is from the seventh dorsal vertebra upwards. It may, however, become advisable, in exceptional cases, where the seat of the disease is lower; for example, when the curvature of the spine is specially aggravated.

Since one is not in position always to apply the plaster-of-Paris jacket to all cases—for example, where the patient is yet too small, or the curvature is too marked—there has been constructed by Dr. Sayre an apparatus for use while lying in bed, which he calls a "cuirass, with head extension." By means of this an amply sufficient fixation is secured, with the possibility also of at the same time keeping the patient clean, without causing pain. This arrangement allows the patient also to be moved about, and to occupy different positions. An exact description of this apparatus has been given by Dr. Moenchen, who has used it many times in the Altona Child's Hospital, and he has given to it the very suitable designation of "Steh-bett"(bed for standing up).

Dr. Moenchen tells of a child, one year and a half old, who, on account of aggravated *rachit kyphose*, had lain in the cuirass for two months and was comfortable, while its general condition all the time visibly improved. He refers to the ease with which the child could be kept clean, also to the ease with which it could be placed in different positions, and moved hither and thither without causing any pain or harm as the result of taking hold of the tender bones.

I will now present the cases of eleven boys and five girls, mostly severe cases of spondylitis, all of whom have worn the plaster-of-Paris jacket, and eight of whom, at the same time, have worn the jury-mast. The children have been brought hither from the hospital in the omnibus, with the exception of a short distance which they walked, and have not experienced the slightest inconvenience. The majority of them are looking well, and, without exception, they are in the best condition of nutrition.

I.—THREE CASES OF CERVICAL SPONDYLITIS.

1. The first is the well-formed boy, Avenzini. He is ten years of age. Was taken sick in May, 1884, with symptoms of inflammation in the vertebræ of the neck. Came to the hospital September, 1884. After exactly one year of hospital treatment as an out-patient, during which for months there was a disablement of both arms, he has been cured without deformity by means of the Sayre plaster-of-Paris jacket in connection with the jury-mast. He has even been able, during the last six months, to attend school. He wears the jacket yet only as a matter of prudence. He can move his arms in all directions. When his head-cap is loosened he walks about firmly with long steps. He bends his head forward and backward, draws himself to the right or the left, climbs with unconcern upon a chair, and jumps down; is not sensitive to a push upon his head.

2. The second boy, Discher, is five years old. He was taken sick in February, 1884, was brought to the hospital in February, 1885, when it was found that the curve in the spinal column had begun in the region of the sixth and seventh cervical vertebræ. A congestion abscess on the right side of the neck required opening and a horizontal position. Fourteen days later a plaster-of-Paris jacket, with jury-mast, was applied. The patient has since that time enjoyed a constantly advancing improvement. Small spasmodic disturbance of the walk disappeared in a short time. The body has regularly increased in weight; the deformity has not increased. The fistula on the neck ceased after three months to discharge. The patient goes about easily with short steps; the position is erect and easy.

3. Eliza Coutens, three years old, was received into the hospital six weeks ago. She had had for some months marked symptoms of cervical spondylitis, without deformity. She spent some weeks comfortably in the cuirass, with

head extension. When, on one occasion, her head-cap became loose in consequence of too much exertion on her part, she called an attendant to fasten it more tightly, because otherwise she was in pain. Eight days ago she put on the plaster-of-Paris jacket, with the jury-mast. Her health has been absolutely good; she walks without any guidance, naturally somewhat insecurely. Appearance and nutrition are excellent. The carriage of the head is faultless.

II.—EIGHT CASES OF DORSAL SPONDYLITIS.

4. Fritz Westfol, six years of age, was taken sick in March, 1884, and was put in plaster-of-Paris jacket, with jury-mast, in August, 1884. Already there had appeared considerable deformity in the region of the upper dorsal vertebræ, also a very marked disturbance of the general condition and in capacity for walking and standing. The power to walk was immediately restored. Restoration followed, in a year's time, the treatment in the hospital as an out-patient. Upon the removal of the jacket, four weeks ago, the boy could walk and stand and bend himself. There were no longer any appearances of any kind of inflammation. The hump has not become any larger; the general condition was good during the entire time of treatment; the blooming appearance and the excellent, vigorous condition of nutrition of the little one bear witness to his good condition.

5. The little ten-year-old girl, Budgereth, was taken sick in 1883. In spite of being put to bed upon the Rauchfuss girdle, and the subsequent application of a felt corset, there was formed a stout hump in the region of the upper dorsal vertebræ, and with this there was also a very considerable bending forwards of the head and upper body. She had also irregular (ataxic) disturbance of the gait, and was greatly reduced, when, in November, 1884, a plaster-of-Paris jacket, with jury-mast, was put upon her. The improvement since then, as regards the general condition, has been very rapid; as regards the trouble in walking, although tedious, yet progress has been made, and, after the course of a year, the difficulty has visibly lessened. The carriage is almost upright. The patient, who, before the application of the plaster-of-Paris jacket, could move forward only with weariness, in six weeks' time was in a position to help her mother in the housework.

6. The young nine-year-old girl, Roethel, had, after three years of treatment with felt corsets, not been cured; curvature of the entire dorsal vertebræ, in a great bow, had increased constantly; the gait was bad. In November, 1884, she was placed in a plaster-of-Paris jacket. The little one was immediately able to walk better and felt more at ease. The general condition since that has been uninterruptedly good; the deformity has not increased; restoration may be expected very soon.

7. Max Willus, five years of age, has been sick since 1883. In September, 1884, he was put in Sayre's plaster-of-Paris jacket, with jury mast. He was in the highest degree pitiable, was pale and reduced and unable to walk.

The possibility of walking was immediately restored by means of the jacket. The sick one recovered so rapidly that in eight weeks he was able to leave the hospital, and since then has been treated as an out-patient. Improvement has been constant. The boy spends the entire day upon his feet, is very lively, and so reckless that the parents are compelled to watch over him with great care. At the last change of the jacket, two months ago, restoration had so far progressed that the boy was able to walk without support; he still, however, wears the jacket. The gibbus in the region of the middle dorsal vertebræ has not increased. In the jacket with the jury-mast his gait and carriage are faultless; his condition ot nutrition and appearance are tolerably good.

8. Emil Griesmon, eight years of age, has been sick since 1883. From the beginning he had been treated in a horizontal position, lying upon the Rauchfuss girdle. In October, 1884, when Dr. Phelps made the attempt to secure fixation by means of the plaster-of-Paris jacket, there had already developed a very marked curvature of the spine in the region of the eighth to the tenth dorsal vertebræ; the head and the upper body were bent far forward. There appeared spasmodic (apostiche) jerkings and contractions in both legs, so soon as the patient attempted to stand, which he was able to do only when he supported himself by the edge of the bed or a chair.

The application of the plaster-of-Paris jacket was difficult, but it was effected after the opening of several abscesses. Fistulæ were formed in the inguinal region and in the loin, which discharged profusely, and which made it necessary to have openings in the plaster-of-Paris jacket.

The patient, in the jacket, could stand and walk, but the disturbances were entirely overcome only after the introduction of a jury-mast. He recovered astonishingly, and is without doubt on the way to complete restoration. The discharges from the fistulæ became less very soon, and after six months entirely ceased. The carriage of the patient is upright, the gait entirely normal, appearance and condition of nutrition good.

9. The twelve-year-old boy, Klows, has been sick for three years. He came in May, 1885, pale and pitiable, to the hospital, with a curvature of the spine in the region of the lower dorsal vertebræ, with a commencing psoas abscess in the left side and a slight contraction of the hip. He could walk only with difficulty and had a strongly bent carriage. The abscess remained undisturbed. After the application of a plaster-of-Paris jacket, the boy was able to walk with an upright carriage, had a good appetite, and improved so rapidly and became so strong that, in two months, the jacket became too small. His weight had increased, between May 10 and September 15, from 19.60 to 23.21 kilo. The patient had no ground for any complaint whatever; he found himself doing continuously well, ran about the entire day, and was further treated as an out-patient.

10. The nine-year-old boy, Mueller, after five years of suffering which could not be cured, came to the hospital in July, 1885, with a stout hump in the region of the lower dorsal vertebræ and the chest protruding like

a barrel. It was difficult for him to walk, and a congestion abscess had broken out on the back side of the right thigh. The short, pinched figure of the patient, the absence of all waist, caused the application of a plaster-of-Paris jacket to appear undesirable. Through rubbing and carefully molding a waist to him, a hold was given for the jacket. After the introduction of a jury-mast, the patient walked without difficulty, and in the course of a few months had so far recovered that he is beaming with health. Although at his reception so pale and delicate, he has now fresh, rosy cheeks, and has become so stout that he is too large for his jacket. He weighed July 23 12.80 kilo; September 2, 15.50. The fistule in the thigh had closed in four weeks; the patient finds himself entirely well.

11. The four-year-old girl, Warnke, after eight months suffering, came to the hospital in the saddest condition, with a strong curvature in the region of the eleventh and twelfth dorsal vertebræ. The upper portion of the spine was bent almost to a right angle with the lower, the head hung far down upon the breast, and both sternocleidomastoidei, especially the right one, were strongly contracted. She could not possibly lie down except upon the side; at every touch the child screamed. She was at first successfully placed in the cuirass, with head extension, which secured fixation and the possibility of lying down. In a week she had so materially improved that she was put into a plaster-of-Paris jacket, into which, on account of the great degree of spinal curvature, it became necessary to introduce a jury-mast. From the beginning of her sickness she had been treated in a polliklinik, with a plaster-of-Paris jacket, which without a jury-mast in such a case is of no help.

The child could not stand when the jacket was applied. She learned to walk in four days' time; in four weeks' time she recovered her speech, which had been entirely lost, and, as her appearance proves, she is now very well. She walks with upright carriage without any guidance.

III. Five Cases of Lumbar Spondylitis.

12. The four-year-old boy, Edward Hohn, came into the hospital in 1885 with a curvature of the spine in the region of the second and third lumbar vertabræ without any marked disturbance of the gait and in a good condition of nutrition. He found himself doing well while treated as an out-patient, with the plaster-of-Paris jacket, and did not show any inconvenience except in the course of a few weeks a marked limping; he avoided resting on the right leg and relieved the same.

There appeared gradually an inconsiderable psoas contraction, and in October one could distinctly diagnosticate a pelvic abscess. This was punctured in the region of the loins by means of a thick trochar, and dressed with corrosive sublimate. The next day the little one, after the application of a plaster-of-Paris jacket, stood up, and since that he walks freely and without inconvenience.

13. The four-and-a-half year old girl, Döring, was received in February 1885, with a curvature of the spine corresponding to the third and fourth lumbar ver-

tebræ, also with a very large abscess in the left inguinal region. She had been lying for a year and a half, and was very weak. She could not walk or stand without support. After opening and cleansing the abscess, a plaster-of-Paris jacket was placed over the region of the loins. Immediately the little one could walk without difficulty, and was discharged from the hospital.

She recovered so rapidly in a few weeks that the mother reported her an entirely changed child. She runs about very actively all day, engages in all kinds of play, even to taking part in jumping the rope. She sleeps and eats tolerably well, whereas before she often cried out in her sleep, took very little nourishment, and was quiet and uninterested. She did not make her appearance for months, and when the mother was reproached for this, she replied that the child had seemed so well that there actually had been no reason why she should visit the physician.

In July the abscess had again appeared under the jacket, in the left inguinal region. The little one could both stand and walk after the removal of the jacket, not however with entire security. A repeated puncture in the region of the loins was not practicable, since there was no fluctuation; an opening of the abscess over Poupart's ligament showed that we had essentially to deal with a superficial collection of pus. In the pelvis a very small opening was made out of which the sharp spoon drew some pieces of bone and diseased membrane. After thorough evacuation and cleansing, a thin drainage-tube was inserted, and the wound sewed. In the course of three days, during which there was no fever, the drain-tube was removed. In fourteen days, there being a linear healing (without any drain fistula), a plaster-of-Paris jacket was applied, in which the little one left the hospital. She has travelled to-day from Wonsbeck for this presentation. The mother asserts that she is remarkably well and bright; her gait and appearance are good; the wound is healed solidly.

14. The eight-year-old boy, Hofeditz, came to the hospital in November, 1884, with a curvature of the spine corresponding to the third and fourth loin vertebræ; he was treated as an out-patient, and felt very well until May, 1885. He then came with a psoas-abscess in the right thigh, nearly on the point of bursting, and decided chorea. The abscess was opened, the patient was put to bed in the cuirass with head extension, and so fixed with flannel bandages, over which were laid plaster bandages so that movements should cease.

After some weeks the wound was healed, and, as the patient did not show any more spasms or jerkings, he was raised and put in the plaster-of-Paris jacket.

There formed in eight days an abscess over the wound, and at the same time appeared violent choreic spasm. The opening of the abscess revealed a cheesy sequestrum the size of a bean, which was removed, whereupon in three weeks there appeared an almost perfect healing over, during which time the child continued fixed again in the cuirass. He recovered and felt himself in his singular bed so well and satisfied that I had difficulty to persuade him in eight weeks to stand up, in order to have the plaster-of-Paris jacket put upon him. He weighed, on the 3d of April, 1885, 20.50 kilo; on the 18th of September, 24.00 kilo. Since then he is satisfied out of bed, walks about the entire day, and has become quite strong. His gait is strong and upright; he is compelled to take short steps, because the jacket comes down so low as to interfere with the free movement of the trochanters. The slight deformity which has remained is scarcely perceptible.

15. The fifteen-year-old boy, Leonhardt, has been under treatment since September, 1884, on account of spondylitis lumbar in the second and third loin vertebræ. He has been cured by treatment as an out-patient without having missed his school and without any kind of deformity. He still wears a jacket as a matter of prudence. On the application of a new jacket in September he could walk with a faultless gait, could hump himself with bent back, could spring from a chair, and showed no appearance of any kind of inflammation.

16. The eight-year-old boy, Schreiner, came in July, 1885, to the poliklinik, pale and reduced, with a curvature of the spine in the region of the second lumbar vertebra. I saw him, in company with Dr. Cordua, and we both doubted whether it was not too late for the application of a Sayre jacket. It was decided, however, to make the experiment, and the little one actually recovered so rapidly that in four weeks he had gained two pounds, and could be taken to the country for the baths. He came from there again looking very well and bright, and had made such further progress toward recovery that the joyful mother was able to take him with her a few days ago to her home.

These cases which I have presented to you constitute only the smaller portion of the cases of spondylitis which have been treated in the course of a year in the general hospital with equally good results. They prove how much the Sayre system of treatment has been undervalued by us until recently. In an exhaustive presentation of this mode of treatment soon to appear,* I will call attention to the history of fifty-four patients and the results attained in the general hospital.

[The following highly appreciative notice of the German translation of Sayre's Orthopœdic Surgery, which recently appeared in the *British Medical Journal*, and which is the matured expression, on the part of a deservedly high authority, of the estimation in which Professor Sayre's achievements are regarded in Europe, must be very gratifying to its distinguished author.—*Ed.*]

We have received from J. F. Bergmann, of Wiesbaden, a translation of Dr. Sayre's *Lectures on Orthœpedic Surgery and Diseases of the Joints.* It is translated from the second and enlarged American edition, and is fully illustrated. Dr. Sayre's methods have now such universally recognized currency and value throughout English-speaking countries, and are so well-known and largely practiced throughout Europe, that it is surprising that these valuable lectures have not before been translated into German—if, indeed, this be the first translation of them. Time, which tries all things, has set its seal of emphatic and general approval both on the principles and methods which Dr. Sayre has ingeniously devised, ably illustrated, and successfully carried into practice. He has removed a great mass of painful, tedious, and almost incurable complaints into the region of curable and easily manageable affections. He has substituted a simple and practicable method, within the reach of every practitioner, for costly, complicated, and heavy mechanical devices, which were accessible only to a few, and which only imperfectly and occasionally fulfilled their objects. Few men have, in their generation, accomplished so much for the relief of humanity, and his name will go down to posterity, with that of Marion Sims, as among the most distinguished benefactors whom the American medical profession has produced for the glory of medicine and the good of mankind during this century. The German translation (by Dr. F. Dumont) has all the American illustrations, and does full justice to the author.

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*Collection of Clinical Lectures by Prof. von Volkman.

SELECTIONS.

On the Affections of the Joints Which Complicate or Follow Scarlet Fever. By Henry Ashby, M.D., M.R.C.P.

It serves a useful purpose at times to take stock, as it were, of some group of allied diseases, and while refreshing our memories with the collective wisdom of the past, to compare with it whatever personal knowledge or experience we may have to add to the common store.

With this end in view, I propose considering an important group of complications which are apt to be associated with a disease which has much of interest and importance for every practitioner of medicine. Scarlet fever is truly many-sided, and claims our interest, not only in consequence of its infectious and fatal character, but also on account of the many complications which attend it, and the sequelæ which may supervene when the disease itself has spent its force.

It has been known since the beginning of the century that in some epidemics of scarlet fever the joints become affected; but it is only in later times, through the writings of Underwood, Betz, Trousseau, Henoch, and others, that we have any definite information concerning these affections, or any attempt to clear up their pathology.

Trousseau, in his clinical lectures, calls special attention to what he designates "scarlatinal rheumatism," stating that it occurs much more frequently than is generally believed; and he does not appear to doubt its identity, or, at least, close relationship with acute rheumatism, though he notes some of its most important eccentricities. His description has been largely followed in our own text-books, though the accounts given have been meagre, most writers, like Bristowe, remarking that scarlet fever is at times followed by rheumatism, which does not differ from the ordinary kind, though noting the fact that suppuration occasionally occurs. The opinion that the common form of joint-lesion occurring in scarlet fever is due to the rheumatic diathesis of the patient, rather than to any synovitis produced by the scarlatinal poison, has been commonly held by continental and English writers; and in a discussion which took place at the annual meeting of the British Medical Association in Liverpool, in 1883, on "Rheumatism in Childhood," nearly all the speakers stated their belief that scarlatinal was essentially the same as the ordinary form of rheumatism. In a short paper (see *British Medical Journal*, Vol. 2, 1883, p. 514) which I read on that occasion, I tabulated some cases which had come under my care, and pointed out that they supported the belief that one form at least of the joint-affection is connected rather with a septicæmic than with a rheumatic condition. A further experience has made it clear to me that the difference of opinion which existed on that occasion was due to the fact that the different observers had really been observing different diseases; that while my cases were all confined to those seen in the fever-ward of a children's hospital, those described by the physicians who took part in the discussion were rather those of adults who had recently recovered from scarlet fever, the former being septicæmic in nature, the latter being true rheumatism.

It may, perhaps, be worth our while to analyze the various forms of joint-affection which may occur in connection with attacks of scarlet fever. They may be divided thus: 1. Synovitis; 2. Acute or chronic pyæmia; 3. Acute or subacute rheumatism; 4. Scrofulous disease of joints.

Synovitis.—Of this form I have notes of twenty cases that have come under my care in the last few years, in which there was a more or less acute inflammation of the joints, and which subsided in a few days without going on to suppuration. It is not easy to say how frequently it occurs, or what percentage of cases of scarlet fever suffer from it, inasmuch as it is much commoner in some epidemics than others. It not unfrequently happens that two of the same family suffer from it; in four out of my twenty cases it was followed by nephritis. It is important to notice that it rarely supervenes in mild cases; at least, such is my experience, though true rheumatism does appear often after light attacks. In my own cases the attacks of fever were certainly severe, the throat symptoms well marked, and an elevated temperature was maintained beyond the average. In an uncomplicated case of scarlet fever the temperature goes down towards the end, or, at least, well within the limits of the first week, the rash disappearing and the throat regaining its natural appearance. Among my own cases, in no one of them did the temperature fall to normal and remain so during the first week, but the fever continued into the second and third weeks, caused in nearly all instances by the severity of the throat complications. Thus, the tonsils were excavated, or sloughy, the mucous membrane of the nose joined in the inflammatory catarrh, the lymphatic glands were swollen, and often surrounded by cellulitis.

In four of the cases, excluding one who died on the ninth day, the temperature fell to normal within a fortnight; in the remaining fifteen the febrile symptoms did not abate till the third or fourth week. It thus clearly comes out that the synovitis appertains to those cases in which the symptoms are severe, and the fever unduly prolonged by the ulcerative and sloughy condition of the tonsils and soft palate. Of the twenty cases, two were fatal, one on the ninth, the other on the twenty-fourth day. The joints which were most commonly attacked were the wrists and finger-joints, the inflammation often involving the synovial membranes of the flexor and extensor tendons in the palm and back of the hands. The knees and ankles were frequently involved, and, with the latter, the soles of the feet; the hips and shoulders were less often attacked. In several cases the joints of the cervical vertebræ were affected; movements of the head and neck caused acute pain. For the most part the joints were painful on movement and tender, less often red and swollen; in most instances the synovitis was fugitive, lasting only a few days, and rarely or never returning to the same joint.

In some few cases the wrists only, or knees only, were affected. In one case the synovitis became chronic in the knees, the effusion lasting for several weeks (sixtieth day), but eventually the fluid was absorbed, and the girl quite recovered. In two other cases the synovitis remained exceptionally long, in one case lasting from the seventh to the twenty-second day, and in another from the eighth to the seventeenth; in five only did the pain and tenderness last beyond the week; in the remainder the patients were free from pain in two to five days.

In the majority of cases the synovitis supervened at the end of the first week or beginning of the second, the earliest commencing on the fourth day of the fever, and the latest on the thirteenth, fifteen out of the twenty beginning from the sixth to the ninth day. This knowledge that synovitis nearly always commences at the end of the first or beginning of the second week may be an important element of diagnosis, inasmuch as true rheumatism, when it supervenes, generally does so during convalescence, or, in some cases, at the very commencement of the attack.

The question of cardiac complication is a very important one as bearing upon the rheumatic origin of the synovitis. In seven cases out of the twenty, soft *bruits* were heard, or the first sound was "murmurish," in one of these with a well-marked *bruit* which ended fatally, but no valvular lesion was found. In the greater number of cases the murmurs disappeared before the children left the hospital. It must be borne in mind that *bruits* are often heard in scarlet fever, both at the apex and left base, which disappear completely during convalescence; and I have every reason to believe that those heard in my cases of synovitis were not due to any endocarditis, but were simply hæmic or functional. In one case there was a pericardial friction sound heard, followed by signs of fluid in the pericardial sac, and in another a pleuritic-pericardial rub, as if due to effusion of lymph on the pleura and external surface of the pericardium. In no case, as far as I have been able to ascertain, did chorea follow the attack.

The drug commonly given directly the joints became painful was salicylate of soda. It is difficult to estimate its effects on a disease which is, as a rule, so fugitive as scarlatinal synovitis; and I am inclined to think that, in some cases, where the patient was quickly free from pain, this was only the natural course of events, and was not due to the treatment employed.

It must, I think, be tolerably clear from the foregoing account that there is good reason for classing this joint-affection outside the pale of what is ordinarily termed acute rheumatism. On the other hand, the symptoms point to a condition which may be termed "scarlatinal septicæmia," arising from the absorption of putrid matters from the ulcerative or sloughing process going on in the throat, and resembling the acute or chronic septicæmia in puerperal cases, gonorrhœa, ophthalmina, or diphtheria.

That synovitis differs essentially from rheumatism may be seen by a consideration of the following points.

1. Synovitis is more common in some epidemics than in others, and occurs more especially in those cases where the febrile stage is prolonged on account of the severity of the throat-affection.

2. The joint-lesions nearly always supervene at a definite stage of the attack, namely, at the end of the first week; a fewer number of joints are affected than in acute rheumatism; the attacks are more fugitive, and rarely recur.

3. Pericarditis and pleurisy are not common, and endocarditis is very rare.

It must appear tolerably certain that, if these attacks were really rheumatic, the scarlatinal poison bringing into activity the latent rheumatism, the frequency of the attacks would not vary with the epidemic, or supervene so constantly at one period, or, above all, would so rarely give rise to peri-endocarditis, as it is well known that an attack of acute or subacute rheumatism during childhood only exceptionally spares the heart.

Acute or chronic pyæmia.—I have already spoken of scarlatinal septicæmia resulting from the absorption of septic matters from the throat; but, in addition to this condition, there is unquestionably a further stage in which phlebitis, septic embolism of various organs, abscesses in the joints, and purulent inflammation of various serous membranes, takes place. Pyæmia is by no means uncommon in scarlet fever, yet it cannot be said that suppurating joints often occur. I have only seen three such cases. In one case, which was fatal on the nineteenth day, there were *ante mortem* clots in the right internal jugular vein, infarcts in the spleen, minute abscesses in the kidneys, and suppuration in both ankle-joints. In a second case, there was suppuration in the distal joint of the thumb, in a boy who died on the fifteenth day. In a third case, in a boy aged 2½ years, in which recovery took place, there was redness and swelling of the finger-joints on the eleventh day; the next day, pain and tenderness in the knee and ankle; on the fifteenth day, two ounces of pus was let out from the knee; and on the twentieth day, pus was evacuated from the palmar surface of the hand. On the thirty-seventh day, an abscess was opened over the crico-thyroid joint; on the forty-ninth, pus was evacuated from the hip and also from the popliteal space. The boy finally recovered, and seven months afterwards was strong and well. In no one of these cases was there any definite cardiac complication (see *British Medical Journal, loc. cit.*). Similar cases are related by Henoch (*Charitié Annalen*, Jahrg. vii, p. 645) and Bokai (*Jahrbuch für Kinderheilkunde*, Band, xxviii, p. 320.

Acute or Subacute Rheumatism.—Whilst, in children, at least, by far the commonest joint-affection in scarlet fever is the synovitis above described, yet it must be admitted that true rheumatism does sometimes complicate scarlet fever, and is apt to follow during convalescence. What part the effects of the scarlet fever poison plays in producing or calling latent rheumatism into activity, it is difficult to say; it is possible that the tissue-waste leads to an accumulation of effete materials in the system, which, in those prone to rheumatism, brings about an attack. An attack of scarlet fever certainly does seem at times to stir up an attack, or a recurrence, of joint-pain or peri-endocarditis. Thus, in four cases which have come under my notice, who had previously suffered from endocarditis and rheumatism, and who contracted fever, the attack was quickly followed by joint-pain. pericarditis, or erythema nodosum. In one case (*Abstracts of Cases at Children's Hospital, Manchester*, page 16, 1883), John M., aged 9, who was admitted on the eighth day of an attack of scarlet fever, a pericardial rub was detected as well as mitral disease, which latter was evidently old; a few days later, there were joint-pain, and an eruption of erythema circinatum. In another case (*loc. cit.*, page 62. 1884), M. E. J. B., aged 13½, admitted to the general wards for acute rheumatism and endocarditis, during convalescence, when she had been free from pain for two or three weeks, contracted scarlet fever. On the fifth day there was a recurrence of rheumatism in the joints; and on the ninth day pericarditis occurred.

In another case (*loc. cit.*, page 63, 1884), Eleanor H., aged 5, admitted for mitral disease, having suffered from rheumatism six months before, contracted scarlet fever. There was a pericardial friction-sound heard the same day; and on the fifth day there was an erythematous rash. The association, however, of scarlet fever and acute rheumatism is rather that the latter follows during convalescence, which I am inclined to think it does more commonly in adults than in children. Two cases of this kind, which were under the care of my friend, Dr. Massiah, of Didsbury. and which he was good enough to ask me to see, impressed me very much. Two brothers, 8 and 10 years old, suffered from a mild attack of scarlet fever; during the fourth week, when they were up and about in their room, and still desquamating, they began to complain of pain in their joints, which, however, was never severe, and also of pain in the region of the heart, with dyspnœa. Both quickly developed both mitral and aortic *bruits*, and later on pericarditis; one died within three weeks, and the other within five weeks of the commencement of the rheumatic attack. Both evidently suffered from acute or malignant endocarditis, Such cases are of great importance and easily mislead, especially as the joint-pains may be comparatively slight.

Scrofulous Disease of Joints.—Disease of the hip, or of other joints, is not, as far as I have seen, a common sequence of scarlet fever, though it is quite possible it may happen oftener than I think, as the cases occurring would gravitate to the surgical side. Presumably the weakened condition of health produced by the fever predisposed to tubercular disease of bone or other organs. There can be little doubt that an attack of scarlet fever, as a rule, greatly aggravates chronic disease of joints which have already become established. Suppuration quickly takes place in a perhaps hitherto quiescent hip-joint, and possibly a condition of septicæmia or pyæmia supervenes. It seems probable that sometimes a joint which has suffered from scarlatinal synovitis may become the seat of chronic disease, though I cannot say I have ever been certainly able to trace out such a sequence. Much of the variance of opinion with regard to the rheumatic or septicæmic origin of the joint-lesions in scarlet fever has, no doubt, originated from the fact that observers have been describing the different forms which occur. Personally, I have no doubt that the form which occurs most commonly in children is of septicæmic origin, and rarely leaves behind any damage to the heart; but it is also certain that an attack of scarlet fever will sometimes cause a redcrudescence of true rheumatism, or in some way predispose, so that an attack supervenes in the course of the patient's convalescence.—*British Medical Journal.*

SCARLET FEVER FROM THE COW.

No more important report has been issued by the Local Government Board for many years than that presented by Mr. W. H. Power on March 31, and recently published. The conclusion at which he has arrived is of such far-reaching importance, so unexpected, until within the last few months, in its nature, and so disquieting, that the reader is fain to hope that it must be incorrect. Mr. Power, however, leads us on from point to point, until the conviction is forced upon the unwilling reader that it has been proved, as clearly as circumstantial evidence can prove anything, that scarlet fever can be produced by the milk of cows suffering from a disease so slight in its local manifestation as almost to escape attention, and producing so little disturbance of the general health of the cows that their appetite is not impaired nor the quantity of milk which they yield diminished.

The first thread in the web of evidence which Mr. Power has woven so skilfully was afforded by an observation made by Mr. Wynter Blyth, the medical officer of health for St. Marylebone. On December 18, 1885, he reported to the Local Government Board that an extensive outbreak of scarlet fever in St. Marylebone appeared to be associated with the distribution of milk by a certain retail milk dealer, who obtained the greater part of his supply from a dairy-farm at Hendon. The next point which Mr. Power ascertained was that milk from this dairy-farm was sent to three other retail dealers: one at St. John's Wood, another at Hendon, and a third who carried on business at Hampstead and St. Pancras. The epidemic began in St. Marylebone towards the end of November, and, at about the same time, outbreaks of the same disease had occurred among the customers of all the other milk-sellers, except those who dealt with the dairy in St. John's Wood. Moreover, it was ascertained that certain customers of the Marylebone milkman had received milk from Hendon unmixed with milk from any other farm. Suspicion pointed, therefore, strongly to the farm at Hendon; but here, for a time, the investigators were at fault, for a thorough examination of the farm and of the laborers employed there failed to reveal any unsanitary conditions; and Dr. Cameron, the medical officer of health, who associated himself with Mr. Power in this stage of the inquiry, was able to affirm positively that there had been no cases of scarlet fever, or any disease remotely resembling it, among the persons working or residing on the farm, and that the few cases which had occurred in the Hendon district during 1885 had been among families residing at a distance from the farm, and in no way connected with it.

At this stage of the inquiry it became evident that, if the theory which had been started incriminating the Hendon farm was to be maintained, it would be necessary to establish that some new condition affecting the health of the cows had come into operation at, or soon after, the beginning of November. Inquiry elicited that three cows, which had newly calved, had been purchased at Derby market, and admitted to the farm on November 15. These cows had been kept isolated from the others in a "quarantine shed" until about the end of November, but their milk had, after the first few days, been added to the supply, which eventually found its way to St. Marylebone, Hampstead, and St. Pancras. On December 4, four other cows, purchased in Oxfordshire, arrived at the farm, and succeeded the Derbyshire cows in the quarantine-shed. The next important part is that after their period of quarantine, the Derbyshire cows were transferred to a shed called the "large shed," where were over forty other cows; the milk from this shed went to the Marylebone dealer, and scarlet fever began among his customers at the end of November, and continued until the supply of milk was stopped. The Oxfordshire cows were kept in quarantine until December 11, and were then transferred—two to the "large shed," and two to another shed called the "middle shed." The milk from this shed was sent to the dealer who had shops in Hempstead and St. Pancras; the scarlet fever cases occurred among the customers of this dealer in two groups, one at the end of November (the milk from the cows in the quarantine shed had been mixed with this supply shortly before this time), and again, another larger group in the middle of December (that is, soon after the Derbyshire cows had been transferred to the "middle shed" from which the milk for this dealer came). There remained the fact of the entire immunity of the customers of the dealer in St. John's Wood; it turned out that all the milk for this dealer came exclusively from a third shed, called the "small shed," into which no new cows had been introduced. Now comes a most instructive fact, almost of the nature of an exact experiment. A small, limited, but intense outbreak of scarlet fever occurred among certain poor families residing at Child's Hill, and at other places close to the farm; the first case of this group occurred on December 20. Now, on December 15, the supply of milk to the St. Marylebone dealer was stopped, and the dairy-farmer gave directions that the whole of the milk from the large shed should be given to the pigs, or thrown into a pit dug for the purpose. Certain poor persons residing in the neighborhood, hearing of this "waste" of milk, succeeded in obtaining, on December 16 and subsequently, a quantity of milk, surreptitiously, from the cowmen. It was among these people that the outbreak of scarlet fever above mentioned (Child's Hill) occurred on the following week.

The final stage of the inquiry revealed disease among the cows, but so slight that the animals had continued to feed well and to yield their usual quantity of milk; all that could be noticed were vesicles and small ulcers on the udders and teats. On December 31 and following days, a thorough inspection of all the cows was made by Mr. W. H. Power, Dr. Klein, F. R. S., and Dr. Cameron. On two of the Derbyshire cows (November 15) scars were found on the udders and teats, of a kind that satisfied the observers that they had sufferred from the malady; and one of the cowmen subsequently remembered that the first case of sore udder and teats which he had noticed was in one of these Derbyshire cows. Further, it was found that on December 31 two of the Oxfordshire cows had the affection, and that the other cows in the "middle shed" with them had it in an earlier stage; nearly all the cows in the "large shed," where the Derbyshire cows had been stalled, had this vesicular disease of the udder and teats in different stages.

It will be remembered that, among the customers in St. John's Wood who drunk the milk from the "small shed," no cases of scarlet fever had occurred, and that no new cows had been introduced into that shed; but at the inspection on December 31, two early cases of the disease were detected among the cows in the "small shed;" and corresponding "to a nicety with the appearance, for the first time, of the cow-disease among the animals of the smaller shed," came the report of cases of scarlet fever among the customers of the dealer in St. John's Wood. Finally, when the supply of milk was completely stopped, then the peculiar incidence of scarlet fever, on the persons who drank the milk from this farm, also ceased.

Though the disease appeared, at first sight, to be purely local in the cow, and though the general symptoms were, undoubtedly, very slight, yet Dr. Klein found reason for regarding it as a general or constitutional disease, and one that might not improbably be communicable from cow to cow. Upon these points more knowledge is urgently needed, and it is satisfactory to learn that two of the affected cows have been purchased and placed under Dr. Klein's observation in the Brown Institution. His report on the clinical features and on the pathology of the disease will be awaited with impatience.

Disquieting as are the facts which Mr. Powers' inquiry has disclosed, yet it is better to know our enemy, and even in the facts already made out there is much that is re-assuring. The disease in the cow presents, at least, some very tangible and easily recognized signs; and as soon as the pathology and pathological anatomy have been a little more worked out, veterinary surgeons may be trusted to learn how to make a correct diagnosis, and then prompt isolation may, probably, be trusted to prevent the spread of the disease.—*British Medical Journal.*

ONE HUNDRED AND THIRTY-NINE CONSECUTIVE OVARIOTOMIES PERFORMED BETWEEN JANUARY 1ST, 1884, AND DECEMBER 31ST, 1885, WITHOUT A DEATH. By Lawson Tait, F.R.C.S.

From our recent experience in ovariotamy, it would almost appear as if the time had arrived when we had the last word to say about it, and had now merely to refer to it occasionally in valedictory or inaugural addresses as one of the marvels of the nineteenth century. Certainly nothing more astonishing can be indicated than the advance during the last eight years, at the beginning of which period Sir Spencer Wells left ovariotomy with a mortality of 25 per cent., and the position it has now reached, having a mere fractional mortality, due to influences of a purely accidental kind. By accidental, I mean such influences as are not inherent to the operation itself, influences which may be avoidable, it is true, and ought to be avoided, but which may fairly be classed as outside risk. I do not see, for instance, how tetanus can be avoided; and, therefore, its occasional fatal influence in ovariotomy is sure to be felt. So also death, either directly or indirectly from the effects of the anæsthetic, will surely come occasionally forward as an unavoidable result. But all the truly intrinsic causes of death have been banished, and I wonder very much if this is true of any other grave operation in surgery.

We speak of the mortality of certain operations, but I doubt very much if we have arrived at any notion of what the mortality of any other operation really is; that is, the mortality due to the operation pure and simple, not to causes which are avoidable, as unsanitary surroundings or bad surgery; not the mortality of this or that hospital, this or the other operator, but the lowest mortality which can be, and, therefore, that which ought to be achieved.

The success in abdominal surgery has been the basis of a large number of lessons applicable within its own range, and not without benefit to other fields. It has, for instance, absolutely destroyed our fear of the peritoneum, and has justified our opening that sacred sac very much as we open our pockets. It has revolutionized our notions of pathology in some directions, and has confirmed them in others; and it, above all things, overwhelmed with confusion the utterances of therapeutic dogmatists. Baker Brown, after a series of disasters, uttered the truism, "It's the peritonitis that beats us." Now, we beat the peritonitis. On the slighest indication of peritonitis after an ovariotomy we give a rapidly acting purgative, it matters not what; the patient's bowels are moved, and the peritonitis disappears. This practice I introduced in 1875, and it is now almost uniformly adopted. How different from the views we had drilled into us years ago, that opium was the sheet-anchor of the practitioner in all abdominal troubles, when I say now that all opiates are forbidden in my practice, unless they be required to ease a dying patient out of the world.

Peritonitis was formerly regarded as a bar to any abdominal operation, but thanks to the courage of Keith and Wiltshire, it is now the most trenchant argument for immediately opening the abdomen. Let me briefly recite the subsequent history of one of the cases on that list (101), a young girl, only 14, from whom I removed a large cystoma of the left ovary on July 18th, 1884.

On March 4th of this year, I received a letter from Dr. Pearson, of Kingswinford, who placed her under my care, to say that he feared something had gone wrong with the other ovary. I telegraphed him to bring her over at once, and, when I admitted her to my private hospital, there was abundant evidence to prove that Dr. Pearson was right. The pelvis was occupied by a firm doughy swelling pushing the uterus forward and upwards, and this mass could be felt above the pelvis. To the right side, another similar mass could be felt running up and over the right kidney. It was not clear whether these masses were or were not connected, and they both felt to me like soft cancer, an idea justified by the patient's age. What history could be obtained from the friends was not clear, and, therefore, I recommended that the abdomen should be at once reopened. After some demur, this was agreed to by the parents, and it is fortunate for the child that they gave their consent. I operated on March 5th, and found two large encysted peritoneal abscesses, containing about three pints of the most stinking pus I ever encountered. Neither of the cavities communicated, so far as I could discover, with the general sac of the peritoneum, nor did they communicate with one another, and I could detect no other fluid or mass in the abdomen. But, in a few days, it became evident that I had encountered and had overcome only half the difficulty. Whether from the lower cavities the rest of the peritoneum became infected, or whether the suppuration of the whole of the sac was the original scheme, I cannot tell, but the whole of the rest of the sac did suppurate, and I drained out of it about seven pints (eleven pints in all) of horrible stuff; and the child is now practically well.

The conclusion is now completely established in my own mind, and receives confirmation every month: "When in doubt, open the abdomen;" the doubt being one that my patient will not recover if left alone. In the case I have just narrated—and it might be supplemented by many other cases just as striking and quite as successful—I might have concluded that the second growth was a mass of soft cancer, and have sent the poor child home to die from my mistake. If it had proved to be cancer on exploration, the chances are infinitely small that I should have done any harm; and now, as the matter stands, I have achieved a brilliant success.

This is the doctrine which I want to preach, for the support of which I have recently had the powerful aid of Dr. Wade; and not all the foolish outcries about the laparotomy epidemic, raised either at Liverpool or elsewhere, or any other kind of opposition, is in the least likely to hinder its propagation. I have not spoken to Dr. Wade precisely on the subject, but I strongly suspect that a powerful and moving influence in his mind, towards the adoption of this view, is a case which was, to me, a revelation and a lesson of the most terrible kind.

It was, I think I may say, the initiation of this new course of practice; for I have never since allowed a case of peritonitis to die without at least proposing abdominal section as the proper cause.

Many years ago, a lady of high social rank, who honored me by her friendship, and to whom I was deeply attached, had performed on her by me a trifling uterine operation, which had been done without ill effect many times before. It was the insertion of a sulphate of zinc pellet into the uterus, for the arrest of extreme menorrhagia due to a myoma. She died about fourteen days after, suffering from many symptoms which suggested peritonitis, save that her pulse and temperature always contra-indicated this conclusion. Dr. Wade saw her just before the end of her illness. At the *post mortem* examination, we found a large quantity of pus, all of which could have been cleared out by an abdominal section and drainage.

Three great lessons were taught me by this case; first, that tinkering with the inside of a uterus occupied by a myoma is not satisfactory, and more dangerous than removing the appendages; second, that fatal peritonitis may occur with a low pulse and a low temperature—a fact I did not know before that; third, that suppurative peritonitis might be treated like any other abscess. And from all these lessons I have most abundantly profited.

The absolute want of fear of the peritoneum, which has grown out of our success as a matter of necessity, has brought about many other startling changes. We are now dignified by the name of the "Birmingham School of Gynæcology," and our views are treated with respect; but it is not many years since language of a totally different kind was levelled against my colleague, Dr. Savage, and myself, and many blows had to be received, and not a few were given back. But the incredulity which was so freely expressed in this country by people who would not come to see for themselves, was speedily overcome by the evidence of those who came in large numbers from America, and finally by a missionary tour which I undertook in the States, demonstrating on material freely supplied to me there, and to audiences neither stupid nor prejudiced, many of the most important facts which were capable of demonstration, according to Sir Spencer Wells, only in Birmingham, and were non-existent in London or elsewhere in Europe. * * * Not one of these one hundred and thirty-nine cases had been tapped, and for many years past I have not had a fatal case that had not been tapped. In Stillings' strong words, we conclude now that tapping an ovarian tumor is a surgical crime, and it has accordingly been banished from practice, and ovarian tumors are removed as soon as they are recognized.

Another change effected within the last eight years, and wholly as the result of work done here, a change which has most certainly had considerable effect in reducing our mortality, is the shortening of our incisions. Sir Spencer Wells talks of incisions over five inches as being "long incisions," whereas I regard anything over three inches as excessive, and my average incision is not more than two. To this it has been objected that it increases the difficulty of the operation, but I answer that it is only so in the hands of a bungling operator. Nothing save irreducible solidity can justify a five-inch incision. The chief argument in favor of keeping the incisions within the shortest limits is the diminution of risk of subsequent enterocele. This sequel of abdominal section happens in the practice of every one, no matter how the wound be stitched; and any operator who says it never happens in his particular practice is merely one who speaks rashly and does not keep his eye on his cases long enough.

The method of stitching the wound together is of sufficient importance to demand a word, if only to condemn the practice recommended by Sir Spencer Wells of including only the peritoneum and skin. If you divide skin, fascia, muscle, and peritoneum, you must include all four tissues in your stitches, keeping the corresponding tissues on each side as correctly in relation to each other as possible if you mean the abdominal wall to have as much strength as it had before you cut it. If you exclude tendon and muscle, you exclude the chief elements of strength in the union. * * * As to the dressing of the wound, I still adhere to the dry, absorbent cotton-wool, quite free from any kind of germicide. My fear of germs has steadily diminished, so that if I could get them in sufficiently large quantities, and found them dry, elastic, and absorbent, I would willingly stuff my pads with them instead of wool.

The main feature of change accomplished within the last eight years in ovariotomy is in the treatment of the pedicle. The clamp has been wholly deserted, and the intraperitoneal method adopted. The varieties of this method are practically only two, the silk ligature and the cautery. I adhere uniformly to the silk ligature used in the method known as the Staffordshire knot, and it has never failed me. Dr. Keith and I have a friendly rivalry in our respective advocacy of the cautery and the knot; but I prefer the knot because it is universally applicable, whereas the cautery cannot be employed for intrapelvic work.

The method of cleansing the peritoneum has also undergone a considerable change, and the elaborate system of sponging which I used to practice, as directed by Sir Spencer Wells, has gradually given way to a system of washing which is much better. I fill the abdomen with blood-warm water, and wash all the organs, and I repeat this till the water comes off clear; and I wish to say that the water used has not been boiled, and contains no drug or chemical substance beyond what is stated in the report of the Medical Officer of Health for the Borough. The water is plain, unfiltered tap-water, warmed by the addition of enough from the boiler. It is full of germs and spores and small beasts of thirty-four different varieties, according to a careful report of Dr. Alfred Hill, published some few years ago. * * * One of his (Sir Spencer Wells) conclusions (formulated in 1878) was a very serious one, for it hampered progress very much, especially in operations for removal of the uterine appendages. It was to the effect that removal of two ovaries was a far more fatal operation than removal of one. This conclusion ought to have been that two pedicles in a clamp were far more risky than one. Now, it is evident that it is in no way more risky to remove two ovaries for cystoma, or anything else, than to remove one. In connection with this point, it may be as well to say that in the period embracing this series of one hundred and thirty-nine successful cases, there has not been, in my practice, a single incomplete operation.

Now that we have cleared away all our superstitions, and view the facts in a more reasonable light, we see this operation of ovariotomy not only the most successful achievement in surgery, but we have to regard it as a portal which, opened within the last eight years, has led to innumerable other blessings to suffering humanity.—*British Medical Journal.*

THE TREATMENT OF YELLOW FEVER.

Señor Adolfo Martinez Cerecedo, of Puerto Rico, in an article in *El Siglo Medico* on "Yellow Fever," argues that, as Dr. Freire, of Rio de Janeiro, has demonstrated the existence of cryptococci in the blood, vomit, etc., and as the micro-organisms producing most infectious diseases appear to obtain entrance by the gastro-intestinal tract, the abortive treatment by emetics and cathartics would seem to be the most rational, though much objected to by many South American practitioners. In addition to the emetics and cathartics, Señor Cerecedo advises that hot infusions of mallows, or of oranges and lemons, should be administered, the heat and the acidity being prejudicial to cryptococci and mycelia. He remarks here that Pacini and Koch have shown that the cholera bacillus dies rapidly in a medium only slightly acidulated, and that Bucholtz and Falk have observed that certain acids prevent the development of the different micro-organisms which set up abnormal fermentation processes in the stomach. Added to which, he has himself noticed, from his experience in Puerto Rico, that those persons who habitually drink lemon-water enjoy more immunity from yellow fever and malaria than those who abstain from acid liquids. He quite agrees with Dr. Freire as to the effect of salicylic acid on the yellow fever poison, and he advises that the soda salt should be given from the second day, and diaphoresis encouraged by hot drinks and external stimulating liniments. As an ordinary drink at this time, lemon-water may be given, which, if nausea exists, may be iced. If the third day brings the remission with diaphoresis, the cold drinks should be replaced by hot. If the abortive treatment does not prove effectual, and the serious symptoms of the second period supervene, he advises recourse to the ordinary methods of treatment.—*Lancet.*

[In this connection it may be noted that in a letter received the 1st of June from Dr. Freire by Dr. Joseph Holt, President of the Louisiana State Board of Health, the following interesting statement is made, presenting a summary of the results claimed for his inoculation for yellow fever: "I have performed over seven thousand inoculations with full success. The immunity was almost absolute, notwithstanding the intensity of the epidemic this year. More than three thousand persons who were not inoculated died of yellow fever, while among the seven thousand inoculated, inhabiting the same infected localities, subject to the same morbid conditions, but seven or eight individuals whose disease was diagnosed as yellow fever died. My confrères here have the careless habit of not giving notice of the fact until after the interment of the individuals, and, consequently, accuse me of being unsuccessful. You therefore see that, in spite of all this bad will, my doctrine comes out victorious once more by the test of the year when the epidemic characterizes itself by energetic intensity of infection and contagion."—Ed.]

Physiological Effects of Massage.

Dr. F. Gopadze has published a series of observations undertaken with a view to determine the effect of massage on the transformation of the nitrogenous principles of food. He has investigated the history of the subject, and finds traces of it in a Chinese work 3000 B. C. Dr. Gopadze finds that though there has been a general tendency amongst authors to assume that massage increases the assimilative power, no exact observations on the subject have hitherto been published. He therefore obtained the co-operation of four medical students, who for three consecutive weeks became inmates of Professor Manassein's clinic and lived on certain articles of food—bread, milk, soup, veal and roast beef, the quantities ingested being accurately noted. The nitrogen in all the samples of food, and in the fæces and urine excreted, was determined by the Kjeldahl-Borodin process. Massage was practiced for from twenty to twenty-five minutes once a day two or three hours after food. The operations were commenced by *effleurage*, beginning from the extremities and working towards the centre. This was followed by *massage à friction*, *pêtrissage*, *tapotement*, a second *effleurage* of each part concluding the whole. The temperature was subsequently taken, and in some cases sphygmographic tracings. In all four cases the appetite was decidedly increased, not only during the week in which massage had been practiced but after it had been stopped; thus, one of the subjects took an average daily quantity of 24·95 grammes of nitrogen during the first week, 30·97 during the second week of massage, and 29·57 during the third week. Similarly the amount of nitrogenous transformation was augmented during the continuance of massage in all four cases. The augmentation persisted in two of the cases, but in the other two the transformation was less during the third than during the first week. In Case 1 the nitrogenous transformation was increased three per cent. during the second week, and one per cent. during the third. In Case 2 it was increased one per cent. during the second week, but diminished eleven per cent. during the third. In Case 3 it was increased three per cent. during the second week, but diminished ten per cent. during the third. In Case 4 it was increased four per cent. in the second week, and three per cent. in the third. The quantity of nitrogen assimilated increased in all four cases, independently of the amount of food ingested. During massage two of the subjects gained slightly in weight, the other two losing weight; but during the week following the one in which massage was practiced all four gained. The axillary temperature decreased for about half an hour after the operation to an extent varying from 0·1° to 0·5° C., after which it began to rise, attaining its original figure, or from 0·1° to 0·3° below it about an hour after the end of the *séance*. The respirations became more frequent, and were of a deeper character. The effect on the pulse varied with the character of the massage. When this was carried on lightly the pulse became more frequent, but when the manipulation was more forcible the pulse became slower. The effects in both cases persisted for an hour or more after the termination of the operation. In conclusion, the author suggests that massage should prove useful in chronic gastro-intestinal catarrh, in chronic constipation due to an atonic condition of the intestines, also in various cases where there is a lack of tone in the abdominal muscles. He also thinks that the practice of massage should be a subject of instruction not only in the Military Medical Academy of St. Petersburg, but in all the medical faculties of the empire and in the institutions for training "feldshers"—a semi-educated class of men who act as hospital sergeants, and after retiring from the army are put in charge of village communities where there is no medical man.

RÉSUMÉ OF ORIGINAL ARTICLES.

IN OTHER JOURNALS.

ON THE NATURE OF WHOOPING-COUGH, WITH A DESCRIPTION OF A NEW MODE OF TREATMENT INTRODUCED BY PROFESSOR MONCORVO, OF RIO DE JANEIRO, AND ITS PRACTICAL RESULTS. By William H. Barlow, M. D., in the *Lancet*. The idea of a parasitic origin for whooping-cough has been for along time floating in the minds ol physicians; and so long ago as 1867 I had myself led to that way of thought by the then new doctrines of Lister and the results of his treatment of deep abscesses, etc., treated large numbers of out-patients at the Manchester Hospital for Sick Children with carbolic inhalations, both in the form of spray (using a solution of 2 or 3 per cent.) and as vapor. But though the success was marked, circumstances occurred which caused me to discontinue this mode of treatment; the inhalation of the spray could not be effectually carried out, except under the supervision of a medical attendant, and in the case of hospital out-patients this was of course impossible; while the vapor was frequently allowed to become so strong as to produce great irritation, not only to the patient, but also to the healthy inhabitants of the house. Even when carefully regulated it was oftentimes too irritating to be borne, and in cases where there was bronchitic complication it was necessary at once to intermit the treatment. Indeed the fatal result in a case complicated with broncho-pneumonia in a little relative of my own, and which seemed to me to be in a great measure due to the irritation caused by the vapor, was the immediate reason of my ceasing to use this means; this death took place in 1868. The practice common among the people of the towns, of taking their children to the gas-works to inhale the vapors from the purifying tanks, points also in the same direction, and it is a common practice to inhale the fumes of gas-tar for the same purpose. Parrot has used phenate of soda for the same purpose, and considers the carbolic acid as heroic, *if not specific*, in whooping cough. Many other writers have used carbolic acid and carbolates all over the world, and the results have always been favorable as to the whooping. In Belgium, Tordeus has used benzoate of soda with success. Keuster has employed inhalations of thymol. The salts of quinine have been used with more or less advantage by many, particularly in America. Huebner found benefit from salicylate of soda, and Hildebrandt from inhalations of petroleum vapor. All these experiences point in one direction, that of the parasitic origin of this disease; and all are more or less subject to one drawback, that when they are strong enough to be effectual as parasiticides they become injurious as irritants. It was this fact which led me so long ago to renounce the use of the most effectual among them, and it was this which led Professor Moncorvo, more happily, to that research which induced him to employ the substance I have already named, and the discussion of which I am about to enter upon. It is a congener of carbolic acid, which, however, is free from the irritating qualities of that substance. This is resorcine, a substance which fills a position in the class of aromatics very near to that of carbolic acid. Andeer and Callias and Dujardin-Beaumetz have borne witness to the remarkable effects which resorcine exercises upon the organic ferments, even in small doses; and indeed the latter assert its superiority to carbolic acid in that respect. There are also the advantages of the much greater solubility of resorcine, of its less caustic properties, of its very slight odor, andof its infinitely less toxic qualities—all of which, together with the scarcely less important fact of its slightly sweet taste, combine to render it much more suitable as a topical application than carbolic acid. These properties had led Professor Moncorvo to employ it for internal administration in diarrhœa, dysentry and other diseases of children, even infants at the breast, before he essayed its employment in whooping-cough. But he lays great stress upon the perfect chemical purity of the specimens of the drug to be employed, and he prefers to use it in an aqueous solution of 1 per cent., which is the strength that I have used. The first applications, which are made by means of a large camel-hair pencil or a swab to the supra-glottic portion of the pharyngeal lining to the opening of the glottis and the pharynx, generally increase the violence of the chinks and their number; but that soon subsides, and in the course of one, two,or three days, the patients tolerate the application, and the chinks rapidly decrease in number. It should be applied at intervals of two hours, both night and day, unless the child sleeps, in which case it should not be disturbed. In his treatise Dr. Moncorvo gives thirty cases, and of eighteen of these he gives complete details; and in a further account in the *Archivio di Patologia Infantile* of Naples, for the months of May, July, and September, 1885, he gives a further series of forty cases; many of these were complicated with bronchitis and broncho-pneumonia, and many also were in children with stroumus or syphilitic cachexia. In no case was the complication a cause of any difficulty in the treatment, a statement in marked contrast with the use of carbolic acid, or other of the parasiticide reagents which have been previously mentioned. The last post from Brazil brought me a little additional treatise from the pen of the Professor, containing an account of his further trials, with the result of the application of solution of hydrochlorate of cocaine previously to the employment of the solution of resorcine.

The perusal of these pamphlets roused again in me my old interest in the question, and I made arrangements for the study of the disease and the effects of this mode of treatment. I collected altogether in public and private practice 51 cases, or perhaps more correctly 50; the odd one never arrived at the stage of whooping, and cannot therefore be counted, but it was a child of six months old, the brother of one of the children included in the list, in whom the whooping was fully established. He began to cough and continued to do so for several days before I saw him. When there was every appearance of proceeding in the ordinary course to whoop, the solution was well and carefully applied by the mother to both children; the elder, who was whooping every half-hour, was so far improved that the whoops fell to three or four in the twenty-four hours; and the younger, the child in question, lost his cough altogether, and never whooped at all. Thus, then, I only count 50 cases, of which I have given a list, and from which I gather the following facts. There were in these 50 cases 19 males and 31 females, clearly showing the predominance of the disease in the female sex. The ages showed under six months 5 cases, under twelve months 5, under eighteen months 4, under two years 6, under three years 10, under four years 5, under five years 8, under six years 4, and under seven years 3. The length of time under treatment is: under two weeks, 2; under three weeks, 5; under four weeks, 11; under five weeks, 5; under six weeks, 8; under seven weeks, 10; under eight weeks, 2; under nine weeks, 3—total, 46: leaving four cases of which no account can be heard, but of which Mr. Mills, the assistant medical officer, reports that the probabilities are that they were cured: "I think you may say they are all cured; if they had died, I should have known about it." The total duration of disease is: under two weeks, 1; under four weeks, 2; under five weeks, 8; under six weeks, 3; under seven weeks, 4; under eight weeks, 5; under nine weeks, 2; under ten weeks, 4; under eleven weeks, 3; under twelve weeks, 3; under seventeen weeks, 1; under twenty weeks, 1; under twenty-two weeks, 1; under twenty-three weeks, 1—total, 46. Thus the average length of treatment, of the 46 cases of which we have an accurate account, is five weeks and a half, within a fraction; while the total average duration of the disease is eight weeks and a half; but it is extremely likely that both these figures would be reduced by the inclusion of the four cases which we are unable to trace. Dr. Charles West gives, from an observation of twenty-five cases, ten weeks as the averge duration of the disease; but it is so extremely varaible in its duaation that this cannot be considered as otherwise than a very favorable calculation; and I am inclined to believe that the figures I have stated above show the effect of treatment, and that the true average is much higher than it is placed by Dr. West.

I have in the foregoing statistics given the bare facts, without any gloss or enthusiasm; I have placed no weight upon the individual cases, many of which have been very markedly affected by the treatment, but have trusted to averages, and where there has been any defect of observation or of knowledge have omitted them; but I think that we are justified in saying that there has been no fatality among these fifty cases, as had either of the four cases of which we have lost trace ended fatally we should have heard of it at the dispensary. Yet there were several severe cases among them complicated with bronchitis, broncho-pneumonia, etc., such as Nos. 4, 5, 14, 16, 18, 19, 29, and 36; and of great debility, as Nos. 15, 26, and 39 (the last being a case in which paracentesis thoracis had been performed for empyema eighteen months before, and where the wound remained open and discharged pus for over six months); or cachectic, as in Nos. 3, 31, 41, and 42. It is in these cases that this treatment seems to evince a decided superiority over most other modes, as it does not cause any irritation, and need not be intermitted for the purpose of allowing other forms of treatment to be carried on, nor does it interfere in any way with such treatment. I think, therefore, that these results justify the recommendation of Professor Moncorvo; and I have also, by the aid of the well-known skill of Mr. J. Broadbent, been enabled to corroborate the statements of the Professor as to the microscopic appearances and the effects of this treatment upon them. Thus, in the earlier specimens of expectorated matters that were submitted to microscopic examination, nothing special was to be seen; these specimens were from cases which had been for some days under the treatment, but in those which were taken from cases where the whoop was fully established, but which had not yet been submitted to treatment, the appearances are thus described by Mr. Broadbent: "Examined with one-twelfth immersion, with B eye-piece magnifying about 800 diameters, and the preparation stained with methyl aniline violet, it shows numerous nuclei of pus-corpuscles and some shreds of fibrinous material and a few epithelial scales. In some of the latter there are numerous small micrococci, arranged singly in chains and in groups (zoogl&oelig;a); similar micrococci are also seen in other parts, but in much smaller numbers; the epithelial scales seem to be the chief seat of the organisms." This, it will be seen, exactly confirms the description of Professor Moncorvo.

In the light of this experience and these observations we may, then, agree with the following conclusions:—"1. That whooping-cough is to be classed among the diseases which are caused by the irritation excited by the presence of parasites. 2. That it is due to the presence of micrococci, which proliferate in large numbers upon the lining membrane of the larynx and pharynx, and which infiltrate the epithelial cells, which seem to be the preferential seat of their growth and increase. 3. That resorcine in a solution of the strength of 1 or 2 per cent., applied directly to the mucous surfaces concerned, has been found, in all cases in which it has been employed and the results watched, to rapidly reduce the number of chinks, to reduce their intensity, and finally to lead to the cure of the disease." This last word "cure" is a bold one, but if the first and second propositions are held to be proven, then there can be little doubt that it is properly used. For if there are no other diseases *cured*, yet certainly those which are due to the irritation of a parasite are cured when that parasite is destroyed.

Lastly, the mode of application by means of a brush or swab is not the only mode in which it may be made; perhaps by some of the recently used instruments for applying medicated spray to the interior of the larynx and the adjacent parts of the throat (as that recently described by Dr. Miller of Windsor and by Dr. Hodgkinson) it may be applied yet more effectually than by the methods adopted by Professor Moncorvo and myself. And, again, it is not finally proven that resorcine is the best application that may be found. Perhaps in its near congener, orcine, we may have a still better agent for this purpose, for we find in a note by J. J. Andeer in the *Gazetta Medica Italiana-Lombardia* of July 4th, 1885, that "Orcine possesses almost all the physical properties of resorcine; but while the latter is caustic in large doses, orcine is never more than astringent and antiseptic." This seems to point the way to further experiments, but meanwhile I ask my readers to put to the proof the facts I have placed before them and to make from them the deductions to which they lead. To guard against misunderstanding, I wish to add that, while sharing to a very large degree in the opinions so strongly asserted by Professor Moncorvo, I am not to be taken as denying that blood changes are an essential part of the pathology of this disease; nay, I am inclined to believe that some such changes are necessary to produce the peculiar pabulum for the parasitic germs, and that it is not improbable that some such change is a frequent result of attacks of measles and scarlatina, both of which evidently produce very marked effects upon the tracheal, bronchial, and pharyngeal lining.

REMARKS UPON A SERIES OF CASES OF RÖTHELN (GERMAN MEASLES) OCCURRING IN ONE FAMILY.—By Eugene F. Cordell, M. D., in the *Maryland Medical Journal :*

CASE I.—Boy, aged 10, had red eyes and lachrymation, and slight looseness of bowels, April 2d, 1886. Complained of sore throat on 3d and 4th with sneezing, cough, and headache. Took chlorate of potash, but did not stop school until 6th, when he came home with eyes and nose running, sneezing, cough, and a papular eruption, first noticed on the eyelid, whence it extended to face, neck, body, and extremities, being generally diffused over the surface by the 7th. The redness was more marked on the face than elsewhere. The face presented a mottled or blotched appearance, small papules being scattered freely over it. The papules were less numerous elsewhere, especially on the extremities. Each papule was the centre of a minute area of redness, but papules were also noticed on the arms and legs without any accompanying discoloration. The face presented a swollen appearance. He said the boy sitting next to him in school had had to go home on account of measles, although he had had the disease before. The catarrhal symptoms continued on the 8th, but the eruption was less marked, There was some complaint of soreness of throat, and the entire surface of the pharynx, tonsils, sof tpalate, and uvula presented a uniformly reddened and swollen appearance. The appetite was not notably affected and the spirits continued good. He was allowed to get up on the 8th, and this coincided, whether as coincidence or cause and effect, with fading of the eruption and apparent aggravation of the throat symptoms. On the 9th the eruption was gone. The throat continued congested. The glands in the neck behind the sterno-mastoid muscle were enlarged and tender. The distal third of the tongue was red and raw looking, and covered with minute ulcers, which made the taking of food painful. Eyes less red. There is an occasional cough. The throat continued red to the 12th, with swelling of face and glands, and cough.

April 13th. Went out of the house for the first time. Had a loose passage.

14th. Was still a little hoarse.

16th. The lid of the left eye was swollen and red. There was no peeling.

Case II.—Girl æt. 5, sister of the preceding. Had cough and some hoarseness for about a week before April 21st. Cough especially annoying at night. On the evening of April 20th, a slight papular eruption was noted under the eyes, which on April 21st had spread over the face, arms, and legs. Throat red and congested, but there is no complaint made of it. Post-cervical glands enlarged. Tongue normal. Chlorate of potash ordered. Coughed almost incessantly the following night, notwithstanding several doses of paregoric. Face swollen and red. Is slightly hoarse. Papules out freely on face, arms, and legs. Appearance of eruption similar to that in Case I. April 25th.—Eruption fading, but still visible on cheeks. Is still a little hoarse, but has coughed but little last two nights. As the eruption passed away a tawny hue of the face was noticed. There was no desquamation.

CASE III.—Boy æt. 3, brother of the two preceding. Sneezing and coughing noted for the first time April 25th, 1886, and eyes were red and swollen. These symptoms continued the 21st, and a papular eruption then appeared on the face. Cervical glands enlarged. Throat red and congested. Tongue normal and appetite good. April 22d, eruption nearly gone. Throat still red. April 23d, eruption noted for the last time. Coughed much the night of the 24th, and was a little hoarse. April 25th, tawny hue of face noted. There was no desquamation. Symptoms less marked and eruptions less abundant than in cases I. and II.

CASE IV.—Mother of the preceding children, æt. 30. April 21st, complained of aching in limbs and headache, and of eyes feeling as though sand were in them. April 22d.—Papular eruption appeared, first, on face under eyes—spreading thence to neck, chest, arms, etc. Eruption not so distinct or abundant as in the children. Photophobia, slight itching, but no desquamation.

Thermometric observations were not made in any of the cases, as the temperature of the surface did not appear to be much if at all elevated.

The cases above briefly related occurred in one household. The father of the children and a female servant, both over 40, did not contract the disease, unless a crop of small and painful ulcers upon his tongue were due to the epidemic influence.

These cases were undoubtedly Rötheln—the German Rubeola—which is now prevailing in this community epidemically, and for the following reasons: All four of those attacked and the two not attacked had had measles previously. The mother had it at four years of age, at which time her sister died from "suppressed" measles; the three children had it in the spring of 1883. The symptoms were very characteristically marked in the children, and there could be no mistake in the diagnosis of measles. After a stage of invasion in the two elder children of 3–4 days—during which mild catarrhal symptoms were noted—a purplish-red sub-papular eruption appeared on upper part of face, spreading thence in the course of forty-eight hours over the rest of the body, with an increase of fever, with cough, sore throat, coryza, sneezing, suffusion of conjunctivæ, photophobia, hoarseness, anorexia, cervical adenopathy, emesis, diarrhœa, pruritus, furred tongue, eruption commencing to fade after three to six days, and followed by free furfuraceous desquamation. A mild conjunctivitis was the only sequela. In the third child—two and a-half months old—the symptoms were also well marked, but the attack, as is usual in very young infants, was comparatively mild.

The oldest of these three children had had scarlatina, the others had not had it. The mother had also had it in childhood.

These facts conclusively exclude the idea of the affection being measles, for whilst second attacks of measles may occur, they are yet extremely rare, quite as much so, according to the authorities, as second attacks of scarlet fever and small-pox. It is also altogether improbable that there would occur four second attacks of measles simultaneously in the same family, and that the protective influence exercised by so recent an occurrence of the disease would have been lost in all of the children.

The diagnosis may therefore be considered established, as there is no other disease with which the above description corresponds.

It remains, therefore, to note the points of difference or resemblance which these cases bear to measles, and we may for comparison take the two attacks of 1883 and 1886. Comparing cases I. and II. of 1884, we find a stage of incubation apparently of eleven days. Making the same comparison in the recent attack, and we find a period of incubation of about fourteen days. The stage of invasion in measles was three to four days; in rötheln it was four to five days.* The symptoms of the stage of invasion present no differences in the two series, being in both characterized by mild catarrhal symptoms. The character of the eruption presented some slight differences. It appeared in both first above or below the eyes, or on the lids. It was more distinctly papular in rötheln. The crescentic arrangement of the spots so characteristic in measles was absent or not noted in rötheln. The spread of the eruption over the surface was more rapid in the latter. The color of the eruption was of a lighter shade of red than in measles, but paler than the scarlet hue of scarlatina. The description—pale-rose—usually applied to it characterizes it fairly well. The face, which was more deeply discolored than the rest of the body, presented a suffused appearance—a glow, as it were—but the redness was not uniform, but in patches, the papules presenting a deeper hue than the surrounding reddish areas. There was no itching at all in the children, and it was but slightly marked in the adult, whereas in most cases of measles it is very annoying and often intense. The eruption disappeared much sooner in rötheln than in measles, lasting three to six days in the former, whereas it was visible for two to three weeks in the latter. There was no desquamation in rötheln. The tongue was not furred, nor were the appetite and taste lost or perverted, as they very conspicuously are in measles. The uniform and more extensive redness of the throat in rötheln has possibly some diagnostic significance.

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* This is the reverse of the usual observation, which is that the period of invasion is much shorter in rötheln, being from a few hours to one or two days, as a rule.

The points of resemblance to measles are therefore many, whilst the points of difference are not very striking. The two diseases, as exemplified in these attacks, differ chiefly in degree and in the presence or absence of itching and desquamation. The hot skin of measles contrasts strongly with the absence of appreciable rise of temperature in rötheln. The latter presents the appearance of a mild measles. It might be suspected, but the diagnosis could hardly be satisfactorily made out in the absence of a knowledge of the prevalence of the disease in the neighborhood or community, and where the patient had not previously had measles. The resemblance being so great to measles, the diagnosis will chiefly depend upon the exclusion of that disease, and yet it has been mistaken for scarlatina, a mistake which might be pardonable if the throat symptoms were prominent, if there were rather high fever, and if the papular character of the eruption were but ill marked. A physician of well known diagnostic accuracy told me recently that he had had cases of a mild eruptive fever which had been diagnosticated as scarlet fever by other physicians of experience, and which he had not been able to satisfy himself as to the nature of. I have little doubt that these were cases of rötheln. Professor Louis Thomas, of Leipzig, the author of the article on this affection in *Ziemssen's Cyclopædia*, makes the following statement: "According to my observations, the exanthem of rubeola possesses a similarity to that of measles only, not the slightest to that of a normal scarlet fever."

It is a fact worth noting that there is a widespread epidemic of true measles now prevailing in the city, and that cases of scarlatina are also numerous.

That rötheln is a distinct affection—communicable, infectious, epidemic—

there is no longer any doubt since the memorable discussion before the International Medical Congress of '81. The disease has been recognized for many years—more than a century, in fact—in Germany, and for several years in this country. Some claim to have met with a large number of cases in this city; the above, however, are the first cases that I have seen to recognize, and, as the diagnosis is so clear, they seem to me to be of considerable interest. I may add that rötheln does not always present the well marked features of the cases which I have reported. Considerable variability is noted by different observers in the clinical manifestations of the disease, and this absence of uniformity has caused some confusion, not only in its descriptions, but also in the conceptions of its nature. Some have even imagined it to be a hybrid between scarlatina and measles, both of which it resembles, whilst others have confounded it with roseola. Nor is it always the mild and harmless affection here pictured. Whilst usually justifying a highly favorable prognosis, some epidemics have presented grave features, and one of the speakers at the International Congress referred to three cases under his observation requiring tracheotomy.

ABSTRACTS.

HYDROA.—H. Radcliffe Crocker, M.D., M.R.C.P., thus concludes an elaborate article on this affection, in the *British Medical Journal:* The preceding considerations appear to me to admit the following conclusions.: 1. There is a group of diseases distinct from pemphigus, herpes, and erythema exudativum, whilst sharing some features with all of them, for which the term "Hydroa herpetiforme" is convenient, and has the advantage of being already partially adopted. 2. It would give greater clearness to the term hydroa, if it were restricted to diseases of the type discussed, and not made to include diverse anomalous bullus eruptions. 3. The features which characterize the group are the presence, at some period of their course, of erythema, chiefly, but not exclusively, of a circinate type, of vesicles, bullæ, or pustules, with a tendency to group herpetiformly. These different elements are present in varying ratio to each other, now one, now another, predominating and overshadowing the other; but the disease is always accompanied by intense pruritus, and the eruption tends to undergo evolution and involution at the periphery and centre respectively. The disease generally runs a long, but ultimately favorable, course, with frequent exacerbations and remissions, with a strong tendency to recur, even after long intervals, but it is generally amenable to careful persevering treatment.

The treatment may be deduced from the foregoing cases. Improvement, as far as practicable, in the general surroundings is often necessary; a well-selected and nutritious dietary, but usually with abstention from alcohol, and mental and bodily rest, are usually indicated. Internally, I have found arsenic the most reliable remedy, but it must be given in full doses, and often requires to be pushed to its physiological limit; improvement seldom sets in until six-minim or eight-minim doses of the liquor arsenicalis are reached, but the dose should be small at first and gradually increased. Where that has failed—and, like all such remedies, it fails sometimes—I have usually succeeded with tincture of belladonna, also given in unconventional doses, up to thirty minims or more. Dr. Tilbury Fox advocated quinine in two-grain to five-grain doses; and, no doubt, it is useful in some cases, while cod-liver oil for the broken-down is strongly indicated. Locally, the object is to relieve the pruritus; for this, the best agent, in my hands, has been a lotion of two drachms of liquor carbonic detergens to eight ounces of water, applied freely whenever the pruritus is troublesome; this has always given temporary relief, and the prevention of scratching is very important. Other antipruritics may be used, such as sanitas diluted with equal parts of water, etc.

A FEW SUGGESTIONS FOR THE PREPARATION OF MILK FOR INFANTS. (Dr. John M. Keating in the *Medical News.*)—There seems to be some difference of opinion in regard to the quantity of casein and sugar (per cent.) in human milk. In every young infant it is better to have the minimum quantity as a basis to begin with, so that by diluting the milk as above we reach, accurately enough for practical purposes, the percentage as given by A. V. Meigs, viz.:

Water	87.16
Butter	4.28
Sugar	7.40
Casein	1.04
Salts	0.10

If to a *four* ounce mixture composed of *one* ounce of ordinary milk and *three* ounces of water, we add *one* ounce of ordinary cream (about fourteen and a half per cent. of butter), and about eighty grains of sugar of milk (a level teaspoonful),* we will get a result which closely resembles woman's milk, though containing less casein and more sugar than most authorities give as the result of their investigation. Still, for very young infants this is an advantage rather than otherwise. As the child grows older, say two or three months, the amount of casein can be increased as follows:

Take *two* ounces of ordinary fresh milk, add *two* ounces of water: the following will be the result:

Water	93.38
Butter	1.60
Sugar	2.10
Casein	2.65
Salts	0.31

Now, add two tablespoonfuls of ordinary cream of good quality and a heaping teaspoonful (about 100 grains) of milk-sugar. Cream itself contains about three per cent. of casein. But I have insisted that there must be a certain amount of lime added to the mixture, and I do not think that lime-water always serves the purpose required, even if it be given in large amounts. I prefer the soluble *lactophosphate*, and have used it largely with success for some years. To make this matter simple and to facilitate the carrying out of instructions, I have had compressed *tablets* (*Milk Food Tablets*) made, each containing:

Sugar of milk	26 grs.
Calcis lactophos.	1-6 gr.
Calcis. carb.	1-12 gr.

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* A silver teaspoon, such as is in ordinary use, when filled with sugar of milk and "levelled," will contain about fifty-seven grains; a plated teaspoon contains about five grains less—practically one drachm. A silver teaspoon when "heaping" holds about 117 grains of sugar of millk—practically two drachms.

Sodii bicarb.	1-2 gr.
Potass. bicarb.	1-12 gr.
Sodii chloridi	1-6 gr.

These can be made up in large quantities, put in cans or wide-mouthed bottles, and are to be used as follows: To prepare the bottle for a child about a month old or younger, take three ounces of boiling water and stir in one ounce of ordinary milk; to this add three tablets and dissolve thoroughly; place the mixture in a nursing bottle and add two tablespoonfuls (one ounce) of good, fresh cream; shake well, and give to the child at about the temperature of the body.

For a child two or three months old, prepare the bottle as follows: Take two ounces of water (boiling) and stir into it two ounces of good, fresh ordinary milk (if the child is of a constipated habit, they need not boil together); then dissolve into the mixture four tablets, pour this into the nursing bottle, and add two ounces of fresh ordinary cream; shake well.

If the child's stools contain a mass of curds, showing deficient digestion, it would be well at once further to dilute the milk. Should this not be sufficient a small quantity of malted food, such as Mellin's or Horlick's, a teaspoonful to the bottle, can be added to stimulate the digestive functions. If this fail, then use *peptogenic milk powder*, and predigest the curd; and finally, if still unsuccessful, put the child on condensed milk.

EXCESSIVE VOMITING IN PREGNANCY.—(Dr. Thomas C. Smith, of Washington, in the *American Journal of Obstetrics.*)—*Symptoms*—I know of no more concise and correct statement of the symptoms attending cases of "excessive vomiting" than the following, which is taken from King's Manual: "Symptoms—Exaggeration of ordinary 'morning sickness.' Vomiting increased in severity, duration, and frequency. Ejected matters contain, successively, food, clear mucus, and regurgitated bile. May be severe pain in stomach from continued retching. Apt to continue weeks, or even months, in spite of treatment; then follow constitutional symptoms, fever, emaciation, restlessness, exhaustion, and later, fetid breath, dry, brown tongue, feeble and frequent pulse, night-sweats, and insomnia. Still later, in the worst cases, vomiting stops (from exhaustion of reflex power of spinal cord), and nervous symptoms appear, viz., delirium, stupor, coma, and rarely, *very* rarely, death."

Treatment.—I cannot devote much space to the treatment of mild cases of nausea and vomiting in pregnancy. In fact, if attention is paid to keeping open the bowels, and regulating the diet so that the stomach may not be taxed to digest unsuitable food, nearly all will be accomplished that this class of cases calls for. If disease of other viscera exist, especially the kidneys, remedies should be directed to them. But what is to be done in cases such as that which has served to base this paper on? I have indicated what I believe to be the best plan—that is, give nutrient enemata, and thus rest the stomach. Failing in that, I know of but one certain means of controlling the vomiting, and that is by arresting the pregnancy through the induction of abortion. However repulsive it may be to us, in the interest of the mother this must be done. I know that seemingly desperate cases recover without resort being had to such desperate means, but my belief is that some who are permitted to complete gestation under such circumstances do so at the risk of bringing into play latent diseases, which, while able to resist the encroachments of ordinary attacks of nausea and vomiting, are not competent to contend against the fearful odds incident to such attacks as befell my patient. It is true that every means must be exhausted short of imperilling the life of the woman before inducing miscarriage. Tyler Smith says he has seen a patient suffering from incessant vomiting in a state of great anæmia, with œdema of the lower extremities from pure debility, kept up in the latter part of pregnancy by daily inunctions of cod-liver oil over the abdominal surface. He continues: "It has happened to me to have been twice consulted within a recent period in cases in which the induction of premature labor artificially was so long delayed that the patient died before abortion could be induced." This fact he mentions as a warning against too long delaying the treatment indicated. Nearly all of our leading authorities agree that the induction of abortion in extreme cases is not only justifiable, but demanded. We find the following in Leishman: "The conclusion at which Cazeaux and others have arrived is, that under no circumstances are we justified in inducing premature labor for the relief of the vomiting of pregnancy; but to this we cannot consent, although we admit that the cases which would warrant the operation are of extremely rare occurrence."

Many other authorities might be quoted to sustain the operation above recommended, but at the risk of being tedious I will cite one more whose conservatism and conscientiousness are the best guarantees of his sincerity. Reference is made to Gunning S. Bedford. He wrote as follows: "The two chief arguments employed by those who oppose the induction of premature delivery for the cause under consideration are: 1. That in some instances pregnant women, who have been supposed to have been almost in a moribund state from the exhaustion of vomiting, have recovered and brought forth living children. 2. That the physician is not justified in the performance of an operation which necessarily leads to the death of the child. I do not perceive much force in this reasoning, except in the abstract; and when taken in connection with all the circumstances presented by each case, it loses, in my view, all strength as a guide in practice. To the first argument, therefore, I reply: That if a woman, apparently moribund from long-continued and excessive vomiting, should recover and reach the full period of her gestation, it is a rare exception to a general rule, and, as an exception, utterly worthless as a precedent. Again, it is well known that women have died from the effects of this disturbance, who would in all probability have survived if premature delivery had been resorted to. The second argument, it seems to me, is readily disposed of. The chances of saving the life of the mother in these cases are very much enhanced, and without the operation, should the mother die, the life of the child is also sacrificed. But, I repeat, the whole question resolves itself into one of expediency—the word expediency, in this case, meaning the interpretation which science, conscience, and a high morality may place on the necessity for action.

CASE OF IRREDUCIBLE INGUINAL HERNIA TREATED BY ELASTIC PRESSURE (Dr. William Elder, of Edinburgh, in the *British Medical Journal*).—A. B., a man, aged 56, came to Professor Chiene, of Edinburgh, for advice on July 1, 1885, complaining of irreducible inguinal hernia on the left side. He stated that he had had a small hernia for more than thirty years, but it had never given him much trouble till within the last few months, when it had been coming down oftener than usual, and had been more difficult to reduce. He had never worn a truss, nor used any means to prevent the hernia from coming down. He said that he was always very particular in getting the bowel reduced immediately he felt it down, but that he did not think there was any danger of strangulating the omentum. He did not consult a medical man till the day before (June 30), when it had become very much enlarged and irreducible. The surgeon advised him immediately to put himself under the care of Professor Chiene, which he did. On examination, the swelling was found to consist partly of bowel and partly of omentum. The omentum was much indurated, so much so, that it felt nearly as hard as a stone. There was one large mass larger than a goose's egg, and several smaller ones. There was no pain on pressure. On palpating the tumor, a sort of crepitating sensation was felt, as if there were fluid in the sac. An attempt was made to reduce the hernia, when the bowel was reduced, but very little difference could be made on the omentum. As there was thought to be danger of strangulation, ice was applied to the part, and the patient kept absolutely at rest on his back. He was kept thus all next day; and, on the evening of that day, he was given chloroform, and an attempt was made to reduce it. This, however, was unsuccessful; and, next day, July 3, Professor Chiene applied elastic pressure by means of a padding of salicylic wool, and an elastic bandage in form of a single spica. On removing this, next day, July 4, the hernia was found much reduced in size, and all the crepitating sensation was gone on feeling it. The elastic pressure was re-applied, and the hernia improved, becoming gradually smaller till July 10, when the largest mass was somewhat larger than a duck's egg, and several a little smaller. The masses, however, were softer, and not so much indurated. Next day, July 11, however, the hernia had increased in size, and the crepitating sensation was again felt. This was thought to be due to the bandage having slipped off the swelling during the night, which it had always a tendency to do. The bandage was re-applied, but not so tightly as before, as it was a little painful. It was kept on till July 14, when the hernia was smaller than it was on July 11, but not in a better state than on July 10. The bandage was re-applied, and slowly and gradually the swelling became smaller, till July 17, when I applied the bandage in a different manner, which I will afterwards describe. This bandage remained on till July 20, when it was found that the swelling had almost entirely disappeared. The omentum, however, had all gone back, and the swelling that remained was felt to be due to a thickening of the tissues round the cord and the external abdominal ring. The bandage was reapplied; and, next day, this thickening had completely gone, and no difference could be felt on the two sides, except the canal, which could be felt to admit the point of the index finger. The bandage was kept on till a truss could be fitted, which was done on July 24; and, next day, the patient was able to be up, and gradually regained strength. He is now (May, 1886) as well as ever he was in his life, and the hernia has never been down again.

The two points which I think are worthy of notice in this case are: first, the efficacy of the elastic pressure in the treatment of irreducible hernia; and, secondly, the method of applying the pressure. I think the first of these is quite evident to everyone, namely, that continued elastic pressure, carefully applied, must reduce an indurated hernia in size, and by reducing its size must make it more easy to reduce. Secondly, as to the method of applying the pressure; at first, the bandage was applied as a single spica, but it was found that the swelling was very apt to make its way out below the bandage, by passing towards the middle line. On July 17, however, I applied the bandage more in the form of a double spica, although not a true double spica. I began the bandage at the right anterior superior iliac spine, crossed the abdomen to below the left trochanter major, then round the thigh and across the perinæum to the right groin and right anterior superior iliac spine, where it was pinned to the beginning of the bandage. Then it was wound round the back, above the iliac crests, to keep it from slipping down. I then brought it down over the hernia, on the left side, across the perinæum, and round the right thigh, over the front of the abdomen to above the left iliac crest, and round the back to the right anterior superior iliac spine, where the bandage began, I then went on as before, following the same course, but making the bandage above slightly overlap the one below, until I got all the pubic region covered, except a small space in the middle line for the penis. This opening, which always weakens the pressure, must not be too large, otherwise the hernia will tend to escape through it. I consider that it was the altering of the method of putting on the bandage that had such a wonderful effect in this case. This bandage had only been once on when the hernia disappeared. Another point is, that enough wadding must be used, in order that, when the bandage is on, it may not pain the patient, and in order that the pressure may be equal all round the hernia. It is not necessary to put the bandage on very tightly, as it gradually becomes tighter the longer it is kept on. The different layers of bandage must be pinned to each other, to prevent them from slipping out of their place.

MICROSCOPY AND PATHOLOGY.

THE MALARIA PROBLEM IN ITS LATEST PHASE.

In the *Lancet* of the 10th ult., p. 708, we announced that Dr. Schiavuzzi had presented to the Roman Accademia dei Lincei some microscopic preparations made with cultures of a bacillus found by him in the malarious atmosphere of the regions around Bola in the Istrian Triangle. Now, according to Professor Tommasi-Crudeli, although the bacillus in question in Dr. Schiavuzzi's preparations assumes forms identical with those of the bacillus malariæ, it is by no means certain that the two bacilli are one and the same micro-organism. The configuration alone is not sufficient to characterize the bacilli of the various infections, it being well known that the comma bacillus of Koch, believed at first to be the unvarying principle of cholera, is found identical in patients and localities where no shadow of cholera exists. Micro-organisms, quite undistinguishable as to form, may be malignant or innocuous, so that recourse must be had to experimental proof from cultures made *ad hoc* to determine whether the bacilli can cause specific infections or not.

Another question yet awaiting solution is that of the nature of the alterations wrought by the malaric infection on the blood-globules. Our readers are familiar with the results of Laveran's researches, as well as of those of Drs. Merchiafava and Celli on this subject. By the malaric infection the coloring matter of these globules turns from red to black, being converted into a substance called melanine, while the interior of the globules is at the same time invaded by a substance called hyaline. Laveran attributed these alterations to a living organism which penetrates the globules, while Marchiafava and Celli, to whom belongs the merit of having first thrown light on the alterations in question, observed that the hyaline substance possesses a certain motility, and inferred that it was a parasite to which the destruction of the blood-globules is due; and as, after the globule is destroyed, the hyaline substance divides into a granular débris, they ascribe to these granules the reproduction of the parasite. Similar conclusions were reached by Golgi, who supported the parasite theory by the observation that in the globules, before their transformation into granular débris, there is visible a fragmentation (*fragmentazione*) which divides the globule itself into fine segments. Now, Professor Tommasi-Crudeli holds that the phenomena described by Marchiafava, Celli, and Golgi have not been justly interpreted by these observers. Already, in 1884, at the Copenhagen Congress, he explained the alteration of the red globules as a degeneration of their protoplasm determined by a morbigenous agent, and not a development of an animal parasite. Indeed, the movements encountered in the hyaline substance which invades the globules, and advanced as proof of the presence of the parasite, have little value, if only for the reason that in many blood diseases, and as the result of a heightened temperature, the protoplasm undergoes alteration and acquires a more or less marked motility. So also the degenerations described by Golgi as a fragmentation, by which the parasites are reproduced, are encountered in analogous degenerations caused by violent agencies—as by an electric discharge, or by treating the globules with certain saline solutions. On the other hand, no one has ever seen the granulations in process of conversion, step by step, into the parasite, nor can any trace of this last be found in the air or in the soil of the malarious localities.

But there are yet other considerations. What we, in these days, know of the progressive infection of organisms excludes the notion that it depends on an animal parasite. On the other hand, we have numerous examples of infections produced by vegetable parasites. The malaric infection presents such a variety of forms, from the slightest to the most acute, and there are such intervals of time between its attacks as no animal organism hitherto known could be capable of producing. Moreover, the improbability of the animal nature of the parasite is proved by the property inherent in the malaric ferment of remaining buried for centuries without losing any of its pernicious qualities, so that (and Rome supplies examples every day) one excavation or disturbance of inert soil to a certain depth suffices to liberate the ferment, and to make a locality till then innocuous the scene of a febrile explosion. We know that the seeds of plants can preserve intact their peculiar germinative power even after being buried for centuries, like the grain found in the coffins of Egyptian mummies. So also the cutting of a tract of soil in a deserted neighborhood, through the exhumation of seeds hidden in the earth, can all at once develop an unwonted flora. But nothing of this sort, insists Professor Tommasi-Crudeli, has ever been observed in the case of animal organisms, and therefore he reasserts his opinion that the malaric ferment is constituted by a vegetable, or, in his own language, a schizomycete (σχιζω, divide; μυκης, a fungus). "The tendency to precipitate conclusions," he adds, "from limited research leads to erroneous interpretations, and can only postpone the solution of a problem so complex as that of the malaric ferment—a problem which must be approached not by an isolated observation, but by the concurrence of a multitude of facts and their verification by experiment."—*Lancet.*

UNSETTLED PROBLEMS ABOUT PNEUMONIA.

E. J. Penny, M. R. C. S. E., writes to the *British Medical Journal* as follows: With regard to a leading article in the *Journal* of May 1, I think the following cases go towards favoring not only the "specific fever" theory, but also the possibility of the "contagious" character of this disease.

As recently as April 12, 1886, I was called to see a child, aged 4 years, who presented all the symptoms of acute sthenic pneumonia—the physical signs being well marked—and who was stated to have only lately recovered from an attack of measles. Consequently, in addition to medicinal stimulant treatment, I ordered poultices to the chest, and also gave directions that the temperature of the room should be well kept up. The parents being poor, the remaining children of the family spent their day in the same room as the patient, so as to more fully allow their being under the observation of their mother. On April 16, a crisis occurred in the patient referred to, and from that date she continued slowly to convalesce. On this same date, April 16, a second child, aged 9 months, showed signs of a rash, evidently measles; and on April 17, had, as well, unmistakably developed pneumonia, to which it succumbed during the ensuing night. This child had never left the sick-chamber, not having as yet been weaned.

On April 18, a third child, aged 2½ years, developed the measles-rash; pneumonia following on the same day; and, despite all one's efforts to save life, died on the evening of April 20. This latter patient, although it had all along passed the day in the sick-chamber, slept in another room at night up till April 17, when as it showed signs of commencing catarrh from the eyes and nose, I ordered it to be kept entirely in the sickroom, so that all risks of change of temperature might be avoided; taking care to insure, at the same time, as good ventilation as possible.

On April 19, a fourth child, aged 6 years, showing signs of commencing catarrh, was also ordered to be kept in the sick-chamber; and, on April 20, he too had developed a well marked measles-rash, which in its turn was followed within a few hours by pneumonia. This last patient, notwithstanding that he survived the eighth day of the disease, and that profuse perspiration rather pointed to an impending crisis, unhappily eventually shared the same melancholy fate with the preceding two, as violent vomiting now ensued, which seemed to point to diaphragmatic pleurisy as the immediate cause of death.

My object in bringing all four patients together into the same sick-chamber rested on two reasons; 1, that the mother could only by this means pay individual attention to each; and 2, that I regarded a raised and even temperature as one of the most important parts of the treatment.

The question now arises, Would either of these three children have been saved, or possibly have entirely escaped the complication of pneumonia, had I insisted on their isolation, as opposed to bringing them all together under the same uniform temperature, and had I carried out as well a method of disinfection? I should state that, since attending these patients of my own, I have learned, on good authority, that two other children died during the same week to which I am referring, of exactly the same condition, in the same house, and in the same village. Surely this question is all important; as, if epidemic pneumonia should prove to be infectious, it would become just as expedient to remove other members of the family from the area or source of infection, as would be deemed necessary in cases of small-pox or scarlatina.

It is, perhaps, worth mentioning that all these children were attacked during the very warm weather which we have been lately experiencing, which would go far to prove that "exposure" could scarcely have been the *fons et origo mali* in the instances above mentioned.

Another point of interest is the fact that, in the cases now alluded to, curiously enough the herpetic eruption did not occur in any one of them, notwithstanding that the disease proved rapidly fatal. It would also seem that the virulence of the infection, if such there was, grew stronger proportionately to the number of those attacked, as the first patient, although a rickety and badly nourished subject, recovered, whilst those following her succumbed.

ON A PUERPERAL-FEVER MICROBE AND ITS HABITAT IN NEW YORK. By E. Noeggerath, M.D.

Mrs. L. G., 19 years old, married in November, 1883, passed the summer of 1884 in a country-house on the Hudson, and appeared to be in a perfect state of health on the date of her arrival in New York, by the middle of September. I saw her a few days later, and found that she complained now of loss of appetite, headache, and other symptoms of catarrh of the stomach, which were gradually relieved by the use of chlorine water. On the 20th of September I had occasion to examine the urine, and found it loaded with albumin, but a microscopical examination, repeated from time to time, revealed nothing which pointed to an affection of the kidney. Although she was at once ordered to take skimmed milk, to the exclusion of all other food, the urine showed traces of albumin for at least four weeks afterwards. Her pulse was always between 60 and 70, and the axillary temperature seldom above 97°. On September 25th, she had a severe attack of diarrhœa, with very frequent passages of a matter devoid entirely of bile. This was overcome by a large dose of calomel. On the 26th, labor pains commenced slowly by 4 o'clock in the morning, and the child was delivered in the first position at 6½ o'clock P. M. Twenty minutes later, the after-birth came away with the aid of Credé's method. Uterus contracted but slowly under constant kneading with the fingers.

As regards the management of the confinement, I will state that carpet, walls, and furniture had been disinfected by a spray of bichloride of mercury, that all of the bed-linen and clothing had been kept for a while in a strong solution of carbolic acid. Several injections of a 0.5 0–00 solution of corrosive sublimate were given during labor, and the vagina washed out by the same liquid, after the placenta had been removed. About an hour and a half later, while the discharge from the vagina appeared to be normal in quantity, the patient became restless and the pulse weaker. The disinfected hand was now introduced into the vagina, where it encountered a large clot of blood, which extended far up into the uterine cavity. Its removal was followed by an injection, first, of hot water, and afterwards of a moderate quantity of the one-half-per-mille solution of bichloride of mercury. After this, Mrs. G. passed a comfortable night. On the following day, pulse and temperature were normal.

On the third day, however (Sept. 28th), the temperature began to rise from 99½° at 8 A. M. to 102½ at 2 P. M. The temperature was taken in the axilla, for fear of carrying septic material in the vagina. On the few occasions, however, when the thermometer was placed into the vagina, for the sake of comparison, it was followed by the use of the same disinfecting injection. The difference proved to be just four-fifths of a degree. Taking this into consideration, and the fact that the normal temperature of the patient was 97°, the above-quoted rise up to 102½ in the axilla had the significance of an internal temperature of 104½ under ordinary circumstances. She was ordered to take 10 grains of salicylate of soda, with two grains of quinine, every hour; an injection of corrosive sublimate was given twice a day. Towards 11 o'clock P. M., the temperature had fallen to 99 4-5 again. At this time she complained of headache and slight pain in the right side of abdomen, near the uterus; the latter was not well contracted. During the following days the temperature rose and fell with a certain regularity, and the fever assumed a thoroughly remittent type. Between 6 and 9 A. M., it was 98°-98½°, rose during the day until it reached its climax by 5 and 6 o'clock P. M. (from 99 to 100 1-5) to go down to 98½ by 9 or 10 P. M. This fever lasted during the entire month of October and part of November. An attempt to rise, at the end of the third week after confinement, had to be abandoned; it was followed by a slight chill and rise of temperature. After the 20th of October Mrs. G. always took one dose of 20 grains of quinine after the evening rise of the temperature, besides her smaller doses during the day, which latter were dropped during the hours of remission. Although the fever heat, from the record of the thermometer, never reached any considerable height, and although the pulse never rose above 104 in the minute, Mrs. G. gradually began to feel very weak and exhausted, so that at times I felt apprehensive regarding the final issue of the case. The discharges from uterus and vagina were kept clean by frequent vaginal and occasional intraüterine injections of corrosive sublimate.

From the 6th to the 9th of October, no intraüterine injection had been given, because the temperature was comparatively low. On that day a pretty large clot was expelled from the womb, which had a slight odor, and which I took home for examination.

On this occasion I made a careful examination of the uterus, and found that its posterior wall, as far as it could be touched upwards, was considerably thickened and hardened by recent inflammation; its inner surface felt raw, as if the formation of the lining membrane had been retarded. The touch from outside, as well as the injections which were made during the following four days, occasioned a considerable amount of pain. I will here remark that this uterine lymphangitis was going on increasing during the next week, when it gradually began to diminish.

On the lower half of the left labium minus, and on the edges of a superficial rent in the posterior wall of the vagina near the entrance, was deposited a thin, yellowish infiltration, which slowly healed under treatment with iodoform.

The peculiar features of this species of puerperal fever were:

1. An invasion of a septic element, notwithstanding the most complete aseptic management of the confinement that could be imagined.

2. Long duration and obstinacy of a moderate amount of fever against early, persistent, and energetic internal and local treatment.

3. Its remittent, almost intermittent, character.

4. The inflammatory action of the poison upon the tissue of the uterus.

5. The absence of deposits in remote organs, notwithstanding the length of time the patient was under the influence of the fever germs.

The clot which was expelled from the uterus looked fresh, but smelled as if in beginning decomposition. Upon examination with the microscope, it was found to contain all through its tissue such an amount of a certain form of a bacterium that it was exactly a pure culture (*Reincultur*) of the microbe which I shall describe hereafter.

Now, if I consider this microbe the cause of the fever in question, I do so:

1. Because blood-clots expelled during the course of puerperal fever do contain, if any, the identical microbe which is found in abscesses developed in other parts of the body, *i.e.*, the specific cause of the fever in each individual case.

2. Because this microbe belonged to the class of bacteria called saprogenes, with which corresponds the type of fever that I have attempted to describe.

3. Because the patient was under its influence before and during confinement, as I will show hereafter.

The microbe in question was a true bacterium. Its length, although somewhat varying in size according to the medium on which it is raised, is between a large coccus and a bacillus. It is a short rod, separated in the middle by a slight constriction, just visible with a very high power, which gives it the appearance of two oblong cocci joined closely together. Sometimes two or three rods are joined in one. * * * It is about one-quarter larger than bacterium termo. When transplanted in meat-peptone gelatin, it develops a culture of a very characteristic nature. It rapidly liquefies the gelatin in such a manner that on the third (sometimes fourth or second day, according to the pers, as well as some scrapings from the inside of the central stopper of one of the wash basins, and placed them on gelatin. Soon a very lively vegetation began to develop around them. In transplanting a mixture of all of these growths on gelatin plates, thus trying to obtain a separate culture of whatever microbes there might be developed, I obtained:

1st, a large amount of long, slender bacilli, somewhat resembling in shape that of tuberculosis.

2d, a large diplococcus.

3, a coccus in clusters or in chains.

4, bacteria, small rods of several sizes.

On several portions of the gelatin-plate I found, after three or four days, that it showed signs of liquefaction. From these parts I now infected my test tubes, and thus was enabled to find our identical microbe among the many that lived inside the water-pipes.

The family, which had lived in the house before, had not gone through any remarkable quantity or quality of sickness. But now things had changed. The fact that the basins had not been used during the hot summer had transformed most or some of these inhabitants into dry dust, which was swept again and again into the air above. Now, when the rooms began to be used again, the air was full of these minute particles. They now were inhaled and swallowed in large quantity, pervaded all the clothing, and probably settled down all over the body. If you consider the great vitality and volatility of this microbe, this explanation appears natural; and it is my opinion that the obstinate catarrh of the stomach, the peculiar form of diarrhœa, and the presence of albumin in the urine, were already the first signs of invasion.

The life history of this parasite enables us to classify it among the saprophytes, and we must call the fever described, not as symptomatic of septicæmia, but of sapræmia. This distinction is now fully established as existing in fevers occurring during the puerperal state, especially through the researches of Duncan and Ogston. Sapræmia is simple putrid infection, not a poisoning from an organism which goes on developing in the blood, but a reception into the circulation of decomposed lymph and gases. The organisms which produce sepsis and pyæmia have probably nothing to do with putrefaction at all.

I will finish with a practical conclusion. Before and after the fever, the present owner of the house had one of our best experts to examine the plumbing work, and he received the satisfactory assertion that it was the best that could be had in our day; and still the house was poisoned from the water pipes. Consequently, a so-called good plumbing, from an engineering point of view, is no guarantee of a sanitary condition of a dwelling.

I do not wish to leave the impression as if sapræmic fever was always of a
, as in this case it seemed to be. Although it is true that, with the
of fever, the same depression of the system, patients suffering under
f sapræmia do much more frequently recover than those under the
ic poisoning, we do meet with cases which run a fatal course under

day. The swelling persisted for about a week, leaving at the point of injection a hard, solid cicatricial tissue, around which small blood-vessels were developed to quite a large extent; pus could never be found in the specimens examined. The condition in the uterus of Mrs. G. must have resembled very much that of the ear in this rabbit. A very important feature of our microbe is its very great vitality.

My investigations were interrupted in December, 1884, because I had to attend, in January and February, to cases of confinement. I therefore put away a test-tube containing a fully developed culture outside the house, without any covering except the glass jar in which it was kept. There it stood all through the intensely cold winter of 1884-85, freezing and thawing up, and freezing stiff again. I opened it in the beginning of this year, and I was able again to raise at once a perfectly normal culture from it. It is therefore apparent that our bacterium develops a *Dauerform*, a seed which enjoys a most remarkable vitality. Another characteristic of this microbe is its volatility and ubiquity. While preparing my gelatin last winter, I had the greatest possible trouble to keep it free from contamination. Of the great many parasites that I found in the air of my office on exposing fresh plates of gelatin, I very rarely caught one in my test tubes, but this one made its appearance every once in a while, and spoiled a large amount of my material.

The fact that puerperal fevers are almost exclusively produced by one or another form of a coccus, most often strepto-coccus, gives this case a certain interest. Dr. Eugene Fraenkel has lately given the description of a similar puerperal fever bacterium in the *Deutsche Medizinische Wochenschrift*, Nos. 34, 35, 1885. His bacillus, however, differs from the one just described in certain well-marked characteristics. The culture in gelatin has not the comet form, but develops along the area of the infection in small globules the size of poppy seed, and rises above the level of the gelatin in button shape. It does not liquefy nor decompose the gelatin. It, however, produces abscesses in remote organs, a feature usually observed only along with an invasion of cocci.

The floor on which the patient lived, from September on, had not been inhabited during the summer, and most of the house had been empty, except the quarters for the servants. The bedroom, large and airy, communicated by a folding door with two wash closets, and behind these the library was located. As soon as I found this condition of things, I ordered these wash basins not to be used. Several days before confinement took place I closed all their openings with rubber stoppers, and filled the whole basin with powdered charcoal. I was led to these precautions because I detected a smell emanating from the basins, evidently not sewer gas, but a smell very much like that of mice. But even after all this had been done, the air in the rooms did not seem very pure. But since we had plenty of time before the beginning of labor, I hoped that extensive airing of the rooms would remove all possible danger from this focus of possible infection. Things, however, took after all the turn which I have endeavored to describe. Late in October I removed four of the rubber stoppers, as well as some scrapings from the inside of the central stopper of one of the wash basins, and placed them on gelatin. Soon a very lively vegetation began to develop around them. In transplanting a mixture of all of these growths on gelatin plates, thus trying to obtain a separate culture of whatever microbes there might be developed, I obtained:

1st, a large amount of long, slender bacilli, somewhat resembling in shape that of tuberculosis.

2d, a large diplococcus.

3, a coccus in clusters or in chains.

4, bacteria, small rods of several sizes.

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I do not wish to leave the impression as if sapræmic fever was always of a benign type, as in this case it seemed to be. Although it is true that, with the same height of fever, the same depression of the system, patients suffering under the effects of sapræmia do much more frequently recover than those under the effect of septic poisoning, we do meet with cases which run a fatal course under the most judicious treatment. And what would have become of *my* patient if not treated properly is an open question.—*American Journal of Obstetrics.*

[A question which does not appear to have occurred to the learned author would also seem to arise in connection with this case, viz.: Whether the vaginal injections employed during and after labor, notwithstanding their antiseptic character, may not, perhaps, have had something to do with the origin of the fever.—ED.]

THE MICROZYMES.

The battle of the microbes, which has been raging for three months in the French Academy of Medicine, is now brought to a close, and for some time we may expect peace from leucomaines and microbes. To estimate which side has the advantage is not a difficult task. Microbes have too sure a footing to be easily displaced from our etiological catalogue, though from time to time their exact place may be subject to variation, as our knowledge of their life history becomes more complete or our acquisitions of new factors increase. Among the many discourses that the discussion elicited from members of the Academy, the longest was that of M. Béchamp, who, without being exactly a microbist or antimicrobist, reconciled the external and internal (if we may be allowed the expression) origin of disease by the theory of microzymes. According to this idea, every animal cell, its nucleus and nucleolus, and every description of cell, white-blood corpuscle, or gland, or epidermic cell, is composed of elementary particles visible to us under the microscope as granules, to which he applies the term microzymes. These have a life and being of their own, and by this fact the life of the cell is maintained; but when the cell itself comes to an end and is disintegrated the microzymes live on, and when free are known to us as bacteria. They may change their form and aggregate, giving rise in this way to the many kinds of micro-organisms that have been described in the order Schizomycetes, such as vibriones, spirilla, etc. The physiological action of these microzymes varies according to the media in which they are developed, and in this way the noxious forms may be rendered innocuous, as seen in Pasteur's cultivation of rabietic virus, or *vice versa ;* the innocent microzymes may under certain bad conditions become virulent, of which such diseases as typhus, small-pox, etc., afford an example. The theory is no doubt attractive, and serves to supply some vacant places which the microbian idea leaves, but will it bear the test of experiment—that is, does such a thing as a microzyme exist? The matter has been placed in the hands of a commission, and we await the verdict.—*Lancet.*

HOSPITAL NOTES.

REDUCTION OF DISLOCATION OF THE SHOULDER BY ABDUCTION (*British Medical Journal*).—Responding to Dr. Macleod's appeal at the end of his paper in the *Journal* of January 30th, I have to relate the following case.

A man, aged 28, muscular, but not in very good health, had a subcoracoid dislocation of the left shoulder. Sixty hours after the accident, I found him, supine, in bed. Abducting the arm to a right angle with the trunk, I pulled from above the wrist with moderate force. Reduction was immediate, and the pain trifling. No anæsthetic was used, and no counter-extension, beyond the weight of the body, was necessary; but I had my left hand on the head of the dislocated bone, to ascertain the progress of the case. A slight snap was heard at the moment of reduction.

At a meeting of the Bradford Medico-Chirurgical Society, where I mentioned the case, Dr. Murray, of Burley-in-Wharfedale, related having reduced a case by a similar method, the patient being in the standing position. I suspect that abduction is often the effective part of the reduction by manipulation. Dr. Macleod has done service in formulating the procedure distinctly; and, if his method prove frequently successful, it must be considered a decided improvement, consisting, as it does, entirely in counteracting muscular resistance, to the exclusion of attempts to force the bone directly into its place.

PHILIP MIALL, *Consulting Surgeon to the Bradford Infirmary.*

As Dr. Neil Macleod, of Shanghai, after describing this method in the *Journal* of January 30th, 1886, asks for the results of further experience in the reduction of dislocations of the shoulder by his plan, I think it due to record a most satisfactory case.

A very muscular young soldier, aged 24, height 6 feet 2½ inches, was brought into hospital with the following history. When at gymnasium practice he fell over "the horse" on the point of his shoulder, and sustained a very marked subglenoid dislocation of the head of the humerus; there was a hollow below the acromion large enough to hold the fist, and the head of the bone could be felt far down on the anterior border of the scapula. The slightest movement towards adduction of the limb caused him great pain down the inside of the arm and at the insertion of the deltoid; and, without chloroform, it would have been impossible to reduce the dislocation by the usual methods without causing great suffering, and attempts thereat most probably would have ended in failure.

I placed him on a mattress laid on the floor, and gently moved the limb to a position at right angles with the body, the pain being thus completely relieved. I then placed the approximate heel in the axilla, or, rather, against the side of his chest, and gradually applied traction to the upper arm, in the " right angle " direction, the force never exceeding more than about two pounds, and not causing the least pain or spasm. In about thirty-five seconds, this formidable dislocation was reduced, entirely without the patient's knowledge, without pain or spasm, without the usual click, or, in fact, any subjective symptoms whatever. He could not believe the joint was all right, until complete adduction without pain convinced him of the fact. I must mention that the joint had not been dislocated before.

Such a satisfactory result as this I think worth recording; for, if further experience teach us that such results will be general, all will, I am sure, agree that one of the most frequent, formidable, and painful injuries of everyday life will be robbed of all its terrors. When a house-surgeon I have reduced many dislocations of the shoulder by Koch's method of manipulation, but have failed in some, and had to give chloroform; but in no case could I have given a more unfavorable prognosis, and produced so pleasing a result, as this one, reduced by Dr. Neil Macleod's "right angle traction" method.

W. BEEVOR, M.B., *Surgeon Scots Guards.*

SANITARY.

THE HYGIENE OF OLD AGE.—The humorist is greatest when underlying his rollicking is the lesson of a great truth; but perhaps few readers, when they enjoyed the broad fun of the "One-Horse Shay," as portrayed by our inimitable Holmes, have recognized the fact that the man who reaches old age does so largely because he has been constructed upon the principles of the famous vehicle "that ran for a hundred years and a day." Barring accidental deaths from railroad collisions, typhoid fevers, lightning strokes, and other more or less preventable causes, the man who is so built that he is equally strong in all his parts lives out his appointed days. * * *

The result of these lucubrations is to lead us to this point, namely, that the individual who enjoys fair health at seventy-five years of age has probably been built upon the principle of the "One-Horse Shay," and that he should be treated as a wise man would treat such a venerable instrument of progression. He would certainly keep it off the Philadelphia cobblestones, and allow it only to be bowled along some smooth turnpike, and especially would he avoid all jolts and jars which would throw an unexpected strain upon one part. The principle involved in such case is that which is most vital in the treatment of the old,—protection, and especially protection from strain of any one vital part. An old man exposes himself to inclement weather, and especially to a high wind, which suddenly drives the blood from the surface upon the internal organs, and at the same time by its very force checks the enfeebled movements of respiration, which aid in forcing the blood out from those organs. As a result, the man perishes at once, because he has thrown too great a strain upon a weak heart, or, if able to momentarily resist the strain, dies in a few days of pneumonia, due to the congestion of the lung. I have known the sudden shock of good news to strike the old man down, as fatally as the pole-axe fells the bullock, by causing the blood to rush with renewed force through the brain, and tear its way through the weakened walls of the blood-vessels. Again, the violent emotion of a sudden bad news may overwhelm a heart which, with care, would have sufficed for its duties for many years. The young athlete in the boat-race pulls at his oar until he drops from heart-strain, and, if the heart-strain has not been too severe, recovers himself in a few weeks, because the vital elasticity of the heart-tissues is in highest vigor. But the enfeebled and brittle heart-muscle of the old man, strained in some hurried effort to catch a railroad train, or in some equally unreasonable procedure, has no power of recovery, and rests itself only in death. What is true in regard to the healthy ordinary conditions of the old man is more abundantly true in regard to the diseases of the old. Medicines that perturbate—measures that bring relief through violent local actions—cannot be borne, and are not to be employed. At the same time, when possible, it is most essential to arrest at once any incipient disorder in the aged. I knew an old doctor, renowned in all lands, who lived ten years beyond the period attained before by any one of his name, largely because, knowing himself thoroughly, every few weeks he arrested in its inception an attack which, in a few hours, might have gathered fatal force.

Every person, when he advances in years, should go over his whole methods of life and personal habits with some wise counsellor, and should adapt his mode of life to the peculiarities of his individual case. With this warning, it is probably safe to briefly point out some of the more important details in the regulation of the life of old people. The first question is in regard to food. The teeth in old age are, of course, lost, and they should, unless under exceptional circumstances, be replaced by artificial teeth, for the thorough chewing of food is even more necessary in the old than in the young, because in the old the digestive powers are apt to fail. With the best artificial teeth mastication is apt to be imperfectly performed; hence the food of the aged should be soft and readily comminuted, and especially should it be of easy digestion. Very few old people need stimulating diet; very many are injured by an excess of nitrogeneous food. The kidneys, like all other organs, are feeble, and, if meats and other rich foods are used in excess, they greatly increase the strain upon these organs. Milk and milk products, or preparations of breadstuffs cooked with milk, should form a very large proportion of the food of the ordinary aged individual; but individual peculiarities differ so much that personal medical counsel should in all cases be taken, so that the diet may be regulated to the needs of the individual case. Very many old people are hurt by the use of food in excessive quantity; but little exercise can be taken; all growth has ceased, and the bodily furnaces which make heat are able to destroy but very little of food fuel. Some little time since I had occasion to lecture on this subject at the Philadelphia Hospital, and an assertion that I then made that most old people are more comfortable, enjoy better health, and probably live longer for the use of wine, has met with very severe disapprobation at the hands of some of the profession, whose strong sympathy with the temperance movement dominates their judgment. No valid reasons have, however, so far as my judgment goes, been brought forward to lead me to change my opinion. In the overfed American people the habitual use of wine during youthful or middle age and vigorous health is, we think, an injury rather than a good; but when the powers of life are failing, when digestion is weak, and the multitudinous small ills of feebleness perplex and annoy, one or two glasses of generous wine at dinner aid digestion, quiet for the time being much nervous irritation, and in no way do harm. The sum total of ruin wrought by alcohol in the world is appalling, but it is not lessened by our shutting our eyes to the good that wine properly used may achieve. When in the aged there is a distinct failure of vital power, and especially of digestive power, the call for the habitual use of alcoholic liquors is, in my opinion, imperative. The danger of the formation of any evil habits when a man has crossed the line of seventy is so slight that the most conscientious physician need not hesitate in recommending the daily use of alcoholic beverages to his patient.

It is, perhaps, not universally recognized that in numerous cases of various character death finally is due, in greater or less measure, to cold and to an absolute failure on the part of the body to keep itself warm. In the old the heat-making functions are exceedingly low, and hence it is that few old people are comfortable in a room whose temperature is less than 80°. It is especially important, therefore, that an abundance of clothes be worn by old people; but the very weight of the clothes oppresses, so that it is important that lightness of material should be combined with warmth. There is no ordinary garment which compares in heat-preserving powers with the buckskin jacket, and, in our climate, every man who passes the seventieth year should furnish himself with such covering. At first the jacket should only be worn when going out of doors; but in very advanced age it should form a part of the habitual underwear. The jacket should be high up in the neck and long in the sleeves, and should be of such a length as to thoroughly cover the abdomen. If worn as an under-jacket it should be perforated so as to allow the escape of the vaporous emanations from the body. Whenever there is any tendency to abdominal weakness, in addition to the jacket and the ordinary warm underclothes an abdominal flannel bandage should be worn. It ought not to be forgotten that the mass of blood of the human body is in the abdominal organs, and that this is especially so when the circulation is sluggish. It is affirmed by authority that after death all the blood of the body can be put in the relaxed abdominal vessels; hence the importance of maintaining the abdominal warmth, and hence also the good effect in feeble people with pendulous bellies of the bandage, which helps to sustain the relaxed vessels, and thereby maintain the general circulation. The mechanical effects of tight abdominal bandages are well understood by the profession in the treatment of ascites. It is well known that the sudden removal of the fluid by tapping over the abdominal cavity take away so much pressure from the abdominal vessels as to cause them to relax, and draw the blood away from the heart and lungs and brain in sufficient quantity to produce fainting. It is to prevent this that the patient about to be tapped is bound up, and the bandage continually tightened as the water flows off. The importance of the habitual abdomidal bandage is, perhaps, no less, although not as universally, recognized.—H. C. WOOD, M.D., in *The Therapeutic Gazette.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches
1 decametre	"	10	metres
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water.
1 centrilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th	pint, or
		6,067 22-100ths	minims.
1 oz. " "	equal to	1 5-100ths	fl. oz., or
		505 60-100ths	minims.
1 gr. " "	equal to	1 5-100ths	minims.
1 fl drachm water at 60 deg. F.		56 96-100ths	grains.
1 fl oz. " "		455 69-100ths	"
1 fl gallon " "		231	cubic inches.
1 fl pint " "		28 87-100	"

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

THE TREATMENT OF PERTUSSIS.—Until an antiseptic shall be discovered which can safely be prescribed in a sufficient quantity to act as a germicide, I fear that whooping-cough and other diseases due to bacteria will admit of the alleviation of symptoms only. I should like to add that in 1882 I took as the subject of my graduation thesis for the Dublin M. D. degree, "Whooping-cough and Its Treatment by Alum," based upon a record of 200 cases which occurred in my practice in London. I showed that by the local application of alum in glycerine to the pharynx and upper part of the larynx the expiratory spasms were lessened in frequency and violence in a large percentage of recent cases. No doubt alum acts by coagulating the albumen of the mucus of the tissues, and thus shielding the parts, which are in a state of intense hyperæsthesia, from irritation and consequent reflex action; also by its astringent action limiting the blood-supply, and so relieving the hyperæmia often present. The alum and glycerine is not unpleasant to take, and a little is placed on the child's tongue several times during the day and night, and, if this does not seem sufficient, the back of the pharynx and upper part of the larynx are carefully brushed over night and morning with the same application. This proceeding does not interfere with the treatment of complications which are generally present in cases of any duration. Everyone is aware how important it is, in rickety children especially, to stop the spasms if possible, or how quickly such patients will die of convulsions. It has occurred to me that the local application of cocaine would prove even more effectual than alum in these cases, and would not require to be so frequently applied. I should be glad to hear if this alkaloid has been tried.—Dr. A. Woodman-Dowding in the *Lancet.*

NITRITE OF AMYL IN PERTUSSIS.—Dr. Morris J. Lewis, of Philadelphia, reports, in the *Therapeutic Gazette,* the case of an infant thirteen weeks old, with whooping-cough, who suffered from paroxysms of most alarming violence, which were successfully controlled by the inhalation of nitrite of amyl. Ether was first tried for this purpose; but, at the suggestion of Prof. Wm. Pepper, a small amount of the latter was added to the ether. The proportion of ether was gradually diminished until the mixture contained one-fourth part of nitrite of amyl. This mixture was kept in a small vial, and with each cough the end of the finger was wetted with the mixture and held close to the child's nose and mouth, so as to catch the first inspiratory effort. Thus administered, the child practically got nothing but nitrite of amyl. After the commencement of this treatment it never had another attack of exhaustion, and the severity and length of the paroxysms seemed to be materially lessened, although the child coughed just as frequently, the number averaging fifty in the twenty-four hours, the amyl being given each time. No untoward effects were at any time noticed, even when once the bottle, containing at least ten drops of amyl, was held to the child's nose. This treatment was continued for two weeks or more, and during this time the sulphate of atropine was continued in doses averaging the 1-900 of a grain every three hours. Dr. Lewis is confident of the beneficial effect of the nitrite of amyl in this case, and thinks the drug will be found of use in analogous cases; the tendency to apoplexies of various kinds, and some of the other complications, being also probably lessened thereby. By diluting the nitrite with ether or alcohol it can be administered in any dose required, and could more easily be placed in pearls than the pure nitrite. By placing it in a bottle with a small top, that can be covered easily by the finger, it can be almost immediately administered by simply wetting the tip of the finger by inverting the bottle. The child, he says, is now doing well, and has had no complication other than a slight umbilical hernia.

THE TREATMENT OF GONORRHŒA BY ANTISEPTICS.—Gonorrhœa is by no means a trivial disease, and when due consideration is not paid to its frequent sequelæ it really becomes a serious complaint. However, like many other diseases, if competently treated in its early stage its seriousness is much modified. We all know that gonorrhœa is caused by a specific virus which excites a specific inflammation of the urethra, together with certain specific inflammations of adjacent parts, and is often followed by a form of blood-poisoning known as gonorrhœal rheumatism. It is evident that if the initial lesion of the specific inflammation of the urethra is sufficiently combated, the secondary lesions are hardly likely to occur. Since a micro-organism has been found in the discharge of all cases under twenty-one days' standing, which is by many believed to be a specific cause of the disease, it is evident that agents which will destroy this micro-organism will hold out the greatest hope of being cures for the disease itself. It is evident, therefore, that antiseptics are the drugs which are indicated under this view of the pathology of gonorrhœa, and the report of the treatment of four hundred and thirteen cases by Mr. R. H. Firth in the *Indian Medical Gazette*, March, 1886, which shows that corrosive sublimate furnished the best results, furnishes confirmatory evidence as to the truth of this view. Mr. Firth's results are appended in tabular form, as follows:

Treatment.	Number of cases treated.	Average number of days of disease.
Zinc sulphate, 5 grs. to ℥i	40	24.3
Zinc chloride, ½ gr. to ℥i	44	27.3
Tannic acid, 5 grs. to ℥i	10	29.7
Potassium permanganate, 1 gr. to ℥1	30	19.9
Carbolic acid, 1 part to 40	29	23.6
Iodoform, 30 grs. to ℥i	11	29
Silver nitrate, ¼ gr. to ℥i	14	28.4
Corrosive sublimate, 1–16 gr. to ℥i	51	20.1
Corrosive sublimate, warm, 1–16 gr. to ℥i	49	17.5
Chloral, 3 grs. to ℥i	7	31.8
Boracic acid, 5 grs. to ℥i	25	30.2
Quinine sulphate, 2 grs. to ℥i	26	26.3
Sodium salicylate, 5 grs. to ℥i	13	31
Lead acetate, 3 grs. to ℥i	20	26.1
Bismuth and glycerin, 1 to 10 parts	21	25.5
Warm water	23	26.6
Total number of cases	413	

From the foregoing it will be observed that Mr. Firth has tried sixteen varieties of injection. Of these the corrosive sublimate, when exhibited warm, gave the best results, followed closely by the potassium permanganate, and then by the cold injections of corrosive sublimate. For the majority of these injections he has employed tragacanth mucilage as the basis, particularly for iodoform, bismuth, chloral, lead, and borax, and he thinks the method of injecting the drug in a warm solution to be a point of the highest importance in the treatment of gonorrhœa. The warm water is very soothing, and Mr. Firth thinks it enables the drug more readily to get at the mucous follicles of the urethra, which are the chief seat of the disease. He has always been very careful to see that patients understand how to inject properly. In the above treatment no one of them received internally copaiba or cubebs. The only medicines given were an initial purge, and the maintenance for ten days on a simple diet. One case under treatment at Manchester with carbolic acid received marked benefit from hourly administration of eight drops of antimonial wine. In no other case was medicine given, except it were purgative. Mr. Firth has been recently trying the effect of the ordinary zinc lotion, both sulphate and chloride, used warm. From the few observations he has made, he thinks the results will be nearly as good as those from warm corrosive sublimate. In conclusion, he advises medical officers to try the warm corrosive injection, or at least for them to see that the injection they happen to prefer is used *warm*. By so doing he thinks they will cure their patients more effectively and more quickly, too, than heretofore. He advises keeping gonorrhœal patients in bed for at least eight days; but that is a point which depends upon the degree of local inflammations. In using the corrosive injections, it is as well, after the first stage is over, to increase the strength of sublimate to one-sixth grain to the ounce of water. Such, Mr. Firth says, has been his practice.—*Therapeutic Gazette.*

THE TREATMENT OF TETANUS BY WHISKEY.—Dr. Hobart Cheesman thus concludes a report, published in the New York *Medical Record*, of a case of traumatic tetanus in a child of five years, followed, eight months later, by tetanoid symptoms, in which whiskey treatment was used successfully in each instance:

"The effect of the whiskey," he says, " was so decided and beneficial, that I think it should be tried in similar cases oftener. That large quantities are tolerated in tetanus is well known, but not so often remembered, perhaps, as it deserves. Why should not this peculiarity furnish an urgent indication for its use in tetanus, as it is thought to do in snake-bite? I believe its success in tetanus, as in snake-bite, will be found to depend upon its being given in the largest quantities that the patient will bear."

CORROSIVE SUBLIMATE IN DIPHTHERIA.—Dr. Werner, medical officer to a circumscribed factory population of about two thousand, near Narwa, in the Gulf of Finland, writes the *St. Petersburger Medicinische Wochenschrift*, describing the satisfactory results he has obtained in diphtheria by treatment with perchloride of mercury internally, combined with ichthyol inunctions. The author's method of administration is as follows: For young children he dissolves a quarter of a grain of the perchloride in four ounces of water, for children of six or seven half a grain in six ounces of water, and for adults three-quarters of a grain in eight ounces of water. This solution is given to the patients while they are awake every twenty or thirty minutes, in measured doses, so arranged that the quantities made up shall last from twenty to twenty-four hours—i. e., about half a drachm in the case of young children, and a drachm in that of adults. When a good deal of sleep is obtained, larger doses are given at longer intervals. As a rule only milk is allowed as nourishment. If considerable pyrexia exists, an enema of from ten to thirty grains of antipyrin, according to the age of the patient, is given, the rectum having been previously cleared out. Externally, ichthyol is diligently rubbed in over the swollen glands three or four times a day, the fingers being wetted with water when dry to permit of the rubbing being continued for some time. For the first two days of this treatment the local affection usually undergoes no improvement, but on the third day it begins to diminish and the general condition becomes better, the appetite increasing and the children regaining their wonted spirits. In no case did the author meet with the extreme debility which was frequent in cases treated by pilocarpine, even when the local affection was decreasing. As the patients approached convalescence the medicine was diminished, so that more than six bottles were never required. Complications never occurred, though three of the patients had previously had scarlatina.—*Lancet.*

ON THE OLD AND NEW METHODS OF TREATING CONGENITAL SYPHILIS.—Prof. Monti reviews in the *Archiv für Kinderheilkunde* (vol. vi. No. 1) the advantages and inconveniences of the various therapeutic measures employed in the treatment of congenital syphilis. Our author makes the following divisions:

1. Frictions. 2. Calomel. 3. Corrosive sublimate. 4. Albuminate of mercury. 5. Peptonate of mercury. 6. Formamide of mercury. 7. Protoiodide of mercury. 8. Black oxide of mercury. 9. Tannate of mercury. 10. Iodine salts.

The friction method is executed by (*a*) the blue ointment, (*b*) the oleate of mercury, (*c*) the mercurial plaster of Bayerdorf-Unna, (*d*) the mercurial soap.

All these preparations have the disadvantage of slightly irritating the delicate skin of children and of producing erythemata, eczemata, etc. Their action is rapid, and never causes salivation, unless the preparations are employed in too large a quantity or for too long a period. Mercury introduced into the system suddenly often determines an extreme anæmia. Cases of sudden death of children resulting from this medication are not rare. For these reasons Professor Monti never employs mercurial frictions.

Calomel proves usually an efficient and rapid remedy for congenital syphilis, if persisted in for a sufficiently long time. To avoid the anæmia sometimes following upon the calomel treatment, Monti uses only small doses of this drug, such as 1½ grains given in four doses *pro die*. After the disappearance of the symptoms of syphilis, it is indispensable to complete the treatment by the administration of the saccharo-iodide of iron in daily doses of 1½ to 4 grains.

The corrosive sublimate is best exhibited in a solution of 1–6 grain in 2 ounces of water, of which two to three teaspoonfuls are given daily. The sublimate baths influence the syphilitic lesions far more slowly, while the hypodermic injections of sublimate are not so well borne by children as by adults. The hypodermic employment of corrosive sublimate is only justifiable when the intestines are seriously implicated, or the syphilitic lesions imperil the life of the patient directly.

The action of the albuminate of mercury is rapid, but the great pain occasioned by the hypodermic injections of this preparation contra-indicates its employment. Besides, the preparation is very unstable, and consequently little available for general practice.

The peptonate of mercury is more stable than the preceding preparation, but it possesses otherwise no special advantages.

The subcutaneous injections of the formamide of mercury, even when employed in a feeble solution, are too painful to justify their application; besides, they often produce subcutaneous abscesses.

The protoiodide of mercury is an excellent preparation, especially when the osseous tissues are affected; unfortunately, the intestinal mucous membrane is easily irritated by this drug.

The black oxide of mercury is badly borne, and in most cases vomited up.

Monti has used the tannate of mercury in twelve cases with success. The syphilitic lesions disappeared rapidly under its use without any alteration of nutrition. Its dose is 1–3 to 1½ grains.

Iodide of potassium may either be used internally (3 to 6 dessertspoonfuls daily of a solution of 15 grains in four ounces of water) or in form of a bath. The saccharo-iodide of iron in form of a powder (1½ to 4 grains daily) is also an eligible preparation. The internal administration of iodide of potassium provokes rapidly meagreness and iodism in children. The saccharate of iron, even if given for a long time, never produces wasting. Monti rarely prescribes for children the syrup of iodide of iron, as it often leads to a more or less violent intestinal catarrh.—*Therapeutic Gazette.*

THE USE OF SOME MODERN REMEDIES IN HEART-DISEASE.—Dr. A. Ernest Sansom publishes in the *Lancet* an elaborate paper on the use of caffeine and convallaria majalis in cases of mitral disease. In nearly all cases of valvular heart-disease in which there is a failure of compensation the practitioner first resorts to digitalis, and in mitral incompetence digitalis may be given almost indefinitely, and patients often take it for years with obvious advantage. In mitral stenosis, however, there are many drawbacks to the use of digitalis, which are often manifest even in the early stages of failing compensation. With some patients the drug does not agree, and cannot be made to agree. It may induce faintness and sickness. In children sometimes vomiting is induced, and it cannot be persevered with. In other cases, though these symptoms be not manifested, the drug, instead of increasing the force and decreasing the rate of the pulse, actually increases the feebleness and the rapidity. In some the drug, instead of acting as a diuretic, diminishes the quanity of urine excreted, and in a few instances there may be insomnia, restlessness, and nervous disturbance. These signs of intolerance of digitalis in cases of mitral regurgitation are rare, but they are sufficient to make us cautious. It is a good rule, and one that Dr. Sansom always adopts, never to give an adult a larger dose than 5 minims of the tincture (or its equivalent in infusion or the powdered leaves) three times a day for a longer period than a week without constant observation. Then, if tolerance is assured, the patient may continue to take the drug, or the dose may be continuously increased. It is to be remembered that the effects of digitalis may last longer than the period of its administration.

It is in the later stages, however, that the failure of digitalis is most marked. Its power of increasing the force of the left ventricle seems to be gone. The right cavities continue to dilate, and dropsy may be manifestly increasing, and yet the agent in all combinations with ordinary diuretics fails to increase the flow of urine. Then we are compelled to rely on other agents, and the first of these which should be tried is caffeine. The general effects of caffeine, are, to a certain extent, identical with those of digitalis. It slows the heart, increases its force of contraction, produces diuresis, has no nauseous effects, and no cumulative action. This drug, therefore, does not require incessant watching, and may be employed in cases of heart-disease where the kidneys are affected. As to its mode of administration, Dr. Sansom generally employs the citrate, which is freely soluble in water. He employs it in from 3-grain to 5-grain doses dissolved in ordinary liquor ammoniæ acetatis. The dose is generally administered three times in the day, but in some cases once only.

Instead of the citrate, the pure caffeine may be employed, dissolved in a solution of benzoate or salicylate of sodium. In these it dissolves freely, and thus a concentrated solution may be made for hypodermic injection. The following formula Dr. Sansom recommends for internal use: Pure caffeine and benzoate of sodium, 1 drachm; distilled water, 6 fluid ounces. Half an ounce contains five grains of pure caffeine.

Dr. Sansom reports several cases of mitral regurgitation under his own care of great gravity, in which the resources of ordinary treatment had been exhausted, and in which caffeine citrate was administered. These cases showed in nearly all that the amount of urine passed during a considerable portion of the period when the drug was administered was in excess of the amount passed previously. They also showed that the influence of the drug as a diuretic may be prolonged beyond the time of its actual administration, and thus indicated that the dictum that caffeine is not cumulative in action must be reconsidered. His cases also showed that the pulse became more regular and stronger and reduced in frequency, and he concludes from these cases that caffeine in the treatment of cases of mitral regurgitation, in which failure of compensation has occurred, is a valuable agent—that is, it is a powerful diuretic, and is therefore very valuable in dropsical cases: that it tends to increase the force of the heart, to calm the respiration, and reduce the temperature, but that it fails in some cases to be of benefit, even though it may manifest this diuretic force.

Dr. Sansom has also employed convallaria in similar cases, employing the extract made from the roots, leaves, flowers, and stem, the dose being 2 to 8 grains; the fluid extract, dose from 2 to 10 minims; and the tincture, dose from 5 to 30 minims. The convallaria appears to possess a cumulative tendency, and consequently only one dose of convallarin, a glucoside and the active principle of convallaria, should be administered each four hours. The experience of various observers in regard to the action of this drug is very contradictory, so much so that it has been suggested that the activity of the plant varies with the locality in which it is grown If this be so, of course it can be obviated by the employment of the active principle, convallaria. Dr. Sansom thinks that possibly part of the contradiction has been due to the fact that the conclusions of various observers have been based upon different forms of heart-disease and heart-disturbance, and he therefore has grouped a number of cases of mitral regurgitation in which convallaria was administered in doses of 5 grains of the extract or 20 minims of the tincture, three times daily. In these cases of mitral regurgitation the influence of convallaria as a diuretic is far inferior to that of caffeine. The rates of the pulse and breathing were, however, reduced, and the force of the heart and tension of the pulse were increased with an improvement in the regularity of rhythm. He thinks, therefore, that in convallaria we have a drug which may be occasionally used with advantage in cases of mitral regurgitation; that it should be continued for no longer than weekly periods without interruption; that in cases manifesting atrophy it should be accompanied with caffeine, but that for general and systematic administration in mitral regurgitation it will not, except at intervals, usefully supplant digitalis. So much for mitral regurgitation.

Dr. Sansom has employed the same drugs in a number of cases of mitral stenosis, in which, as is well known, digitalis is of much less advantage than in mitral regurgitation; for, in many cases, instead of promoting regularity of the heart's action, it notably increases irregularity. Considering first the use of convallaria majalis in such cases, he has found that in all cases of mitral stenosis convallaria exercised a pronounced diuretic effect, and he thinks it a fair conclusion that convallaria is an important diuretic in cases of mitral stenosis, comparable in its effects with caffeine in mitral regurgitation, and that its effects in this direction are more pronounced in the obstructive than in the regurgitant lesions. As regards the action on the pulse and respiration, he found that in all cases the pulse decreased in rate under the convallaria and increased in tension, while the breathing was improved under the drug in nearly all the cases.

Dr. Sansom's general conclusions are, that caffeine is an agent of great value in the treatment of mitral regurgitation, especially in those in which there is much dropsy, and that canvallaria, though manifesting no very variable influence in cases of mitral regurgitation, except as an occasional substitute for digitalis, is of considerable therapeutic importance in mitral stenosis. —*Therapeutic Gazette.*

INHALATIONS OF BLOOD.—For anæmic patients in whom the preparations of iron are ill tolerated, M. Fubini avails himself, with marked benefit to the patients, of pulverizations made of a mixture composed of 80 parts of a solution of chloride of sodium (¾ per cent.) and 20 parts of defibrinated ox blood. An ordinary spray suffices for carrying out the procedure, which may be repeated without danger five or six times a day, each inhalation lasting about fifteen minutes. Each sitting ought to use up about twenty cubic centimetres of defibrinated blood. The patients experience, after having taken several deep inspirations, a slight giddiness, which disappears on assuming the horizontal position or after drinking a glass of wine. Absorption takes place rapidly from the respiratory passages. M. Fubini remarks on the perfect tolerance by patients of the inhalations, and on the certainty with which hæmoglobin is absorbed by the respiratory passages.—*Lancet.*

THE PREVENTION OF MAMMARY ABSCESSES.—In cases where an abscess is on the point of forming, either from neglect or injudicious treatment, Mr. Philip Miall (*British Medical Journal*) states that he has repeatedly seen all the symptoms of a hot, heavy, inflamed breast, with redness of skin, throbbing and deep-seated pain, pulse being 120 in the minute, all disappear in the course of a few hours under fomentation of hot water and ammonia. An ounce of carbonate of ammonia is dissolved in a pint of boiling water, and when solution is effected the temperature will scarcely be too high for fomentation with cloths dipped in the liquid. These must be assiduously applied for half an hour at least, and repeated for two or three hours if necessary. It is well to protect the nipples, though Mr. Miall states that he has never known them to be injured. Relief is immediate, and more than three applications are seldom required.

MAURY'S OINTMENT.—Under this name an unctuous solid was first formulated and introduced into the Philadelphia Hospital, some eight years ago, by Dr. Maury, then a visiting physician of that institution, for the external healing treatment of sores, ulcers, etc., in general, and as especially serviceable in external affections of the skin dependent upon venereal origin. Since that time, in the medical practice of the hospital referred to, it has been constantly employed by the resident physicians, with a more than ordinarily uniform success.

The original formula contained simple cerate (Ceratum, U. S. P.) as the diluent, and not cosmoline, as hereafter mentioned:

℞.—Nitrate of mercury ointment	ʒj
Powdered rhubarb,	
Powdered opium	aa ʒss
Cosmoline	q. s. ad ℥j

Triturate the rhubarb and opium together with the cosmoline, until a perfectly smooth, homogeneous product is obtained. Then admix with it the citrine ointment, after having previously rubbed the same with about one fluidrachm of glycerine to remove any granulation present, using in the latter process a bone spatula.

The ointment, when freshly made with cosmoline as a diluent, is a soft, unctuous, greenish-brown solid, readily melting at the temperature of the body, and capable of being absorbed by the skin. It changes rapidly, on exposure to the air, to a very deep brown color. The partial change of chemical nature, as evidenced by the change of color, does not appear to affect the medical qualities of the article in question, as every-day usage has fully demonstrated that the old ointment is as efficacious as the new.

Its mode of application is somewhat peculiar and worthy of especial mention. The point to which the ointment is to be applied must first be poulticed with a hot "Labarraque poultice," that is, a poultice of flaxseed meal, made with hot Labarraque's solution, instead of the hot water ordinarily used. After remaining on for a while, the poultice is removed, and frequently takes with it portions of dead tissue. The skin is then carefully dried, the ointment spread upon soft lint and applied twice a day, or varying according to the severity of the case, until the sore is healed.—*Am. Journ. of Pharmacy.*

BELLADONNA INHALATION IN ACUTE BRONCHITIS. (N. A. Davies, in *British Medical Journal.*) In acute bronchitis I believe the dyspnœa is caused more by the contraction of the muscular tissue of the air-cells, due to the irritation caused by the bronchial inflammation, than by the viscid mucus secreted; and, acting on this belief in a case I had occasion to treat a few days ago, where the dyspnœa seemed likely to terminate life, I gave a grain of extract of belladonna in half an ounce of water, by means of a Dr. Seigel's inhaler. After the patient had inhaled this solution for a few minutes, the breathing became quiet and easy; and, before the half-ounce was exhausted, the patient was asleep. By repeating this remedy every few hours, with a stimulating system of treatment by the mouth, the patient, an old lady aged seventy-five, soon passed the dangerous stage and is now recovering.

I have often used this method of treatment in asthma with magical effect, and can strongly recommend its trial in the early state of acute bronchitis, as I have found it marvellously successful. It has the advantage of the ordinary bronchitis-kettle, that it moistens the air of the sick-room, and administers a powerful remedy at the same time.

TREATMENT OF OTORRHŒA.—Brückner employs the corrosive sublimate and red precipitate with great success in various affections of the ear (*Annales de la Société Médicale d'Anvers; Journal de Méd.*, No. 4, 1885). The red precipitate is either used alone or mixed with an equal quantity of alum, especially when the tympanic membrane is partly destroyed and the suppuration scanty. If the external auditory meatus presents granulations or furuncles, the precipitate, used in form of a pomade, is very appropriate. Brückner prescribes:

℞ Red precipit., 2 parts;
Vaseline, 30 "

If the suppuration of the middle ear is abundant and fetid, Brückner uses an instillation consisting of one part of corrosive sublimate to 500 of alcohol. The passage of a sublimate solution into the Eustachian tube is more to be dreaded than even mercurial intoxication.—*Therapeutic Gazette.*

TREATMENT OF ACUTE RHEUMATISM.—A recent number of the *Russkaya Meditsina*, according to the *Lancet*, contains a communication from Dr. L. Grinevitski, who writes that for more than twenty years he has treated acute articular rheumatism with nitrate of potash, two drachms being given daily in raspberry syrup, and a dose administered every two hours. Together with this internal medication, he prescribes an ointment for use, morning and evening, of the following composition: Olei hyosc., 1 oz.; ung. hydrarg. cinerei, 2 drs.; ext. aconit., 1 dr. He has tried all ordinary remedies, and finds that, on the whole, this plan of treatment is more satisfactory than any other, being especially valuable in those cases where the salicylates fail to give relief. Generally the disease is brought to an end in from one to two weeks, according to its severity and the time the treatment is commenced. When begun at the outset of the attack, and before more than one joint was affected, the others were usually spared altogether.

EFFECT OF BITTERS ON DIGESTION.—Dr. Cheltsoff, chief of Professor Botkin's clinic, thinks that extracts of the so-called "pure bitters," which are usually prescribed with the view of stimulating the secretion of gastric juice and of aiding digestion, so far from having any beneficial effect of that kind, are absolutely injurious, inasmuch as they retard the digestive functions. He has made a series of experiments with extracts of aurantium, gentian, trifolium, absinthium, calumba, cascarilla, and quassia on: (1) gastric digestion and the secretion of gastric juice; (2) pancreatic digestion and the secretio n of pancreatic juice; (3) the secretion of bile; (4) fermentation; and (5) nitrogenous metamorphosis. The conclusions at which he arrived were that bitter extracts, even in small doses, interfere with artificial gastric digestion, and also with the gastric digestion of animals, but not to so great an extent. Large doses of bitter extracts diminish the secretion of gastric juice, though small doses effect a slight and transitory increase of it, the digestive power of the fluid being, however, in all cases diminished. Bitter extracts have no effect on the secretion of pancreatic fluid, but they nevertheless retard hypogastric digestion. The action of bitter extracts on the secretion of bile is various; extract of absinthium, extract of trifolium, and large doses of extract of cetrarin, slightly increase it—usually, at least, but not invariably; while extract of quassia, extract of calumba, and small doses of extract of cetrarin, have no effect at all. Bitter extracts have no anti-fermentative effect and do not hinder suppuration. Lastly, assimilation of nitrogenous substances is diminished by the use of these extracts.—*Lancet.*

CHLORAL AND MENTHOL.—Menthol is usually applied in the form of cones or pencils, and from time to time solutions in alcohol, benzin, chloroform, ether, olive oil, glycerin, etc., have been suggested. The author suggests a combination of menthol with chloral-hydrate, which is prepared from equal weights of the two compounds, triturating them together and heating in a water bath not above 96° F., until complete liquefaction is effected. Thus prepared, chloral-menthol is an oily, colorless liquid, having a distinct mint-like odor, a warm aromatic and camphoraceous taste, and at 58° F. the specific gravity 1·1984. It is completely soluble in all proportions in alcohol, freely so in benzin, and also soluble in chloroform, ether, and carbon bisulphide. A few drops of the liquid brought in contact with an equal quantity of sulphuric acid, gave off almost immediately a disagreeable odor, the mixture becoming yellow, then orange in the centre, and on the border surrounded by a greenish, then green band, which soon darkened. On being now stirred with a glass rod the mixture is blue, and dissolves in alcohol with little or no color. The solution neutralized with potassa and heated acquires a straw color, potassium sulphate being precipitated. If the mixture of oily liquid and acid be kept for some time, two layers are formed, one being dark green, the other nearly colorless; on agitation with water the latter is dissolved, leaving a dark green, unctuous mass. Menthol melting near 92° F., the preparation is regarded as a solution in chloral-hydrate of liquefied menthol, the mixture remaining liquid.

Chloral-menthol was used by several physicians with favorable results. Dr. L. Wolff was much pleased with its effects in several cases of facial neuralgia, and regards it as superior to menthol pencils and to chloral-camphor. While it burns and smarts to some extent, this is considerably modified by the cooling action of the menthol. Dr. L. W. Steinbach observed some relief from its use in a case of headache due to gastric disturbance. Dr. C. Seiler found it more decisive than menthol cones in subduing the pain of neuralgia of the temporal region; it produces more smarting, which, however, is not disagreeable. Dr. E. Rosenthal considered it useful in every form of neuralgia; in decayed teeth, applied with absorbent cotton, the pain was allayed in from one to five minutes. It was also used with benefit in migraine, in headache due to biliousness, and in headache due to uterine disease.—From an inaugural essay by H. V. Becker, Ph.G., in *American Journal of Pharmacy.*

PEREIRINE IN INTERMITTENT FEVER.—Dr. Clemente Ferreira, of Brazil (*Bullet. gén. de Thérap.*, April 15, 1886), reports a number of cases of intermittent fever treated successfully with hydrochlorate of pereirine, after quinine and arsenic had been tried in vain. He administers thirty grains, divided into four doses, beginning four hours before the expected chill, half an hour being allowed to intervene between the doses. This effectually prevents the paroxysm, which, however, may return on the following day. On the third day the medication is repeated as before, and after that the fever does not re-appear. The value of pereirine, according to the writer, is equally great in the treatment of irregular paludic manifestations.—*New York Medical Journal.*

HUGE DOSES OF BISMUTH IN CHOLERA.—At the Madrid Academy of Medicine, Señor Sanchez, of the Military Sanitary Service, described his method of treating cholera, which consists in the main in giving huge doses of subnitrate of bismuth—one hundred and fifty grains every half-hour or hour—until the diarrhœa is arrested. The oil of mustard is also employed externally and a very rigorous diet enforced, even bouillon being excluded.—*Lancet.*

RINGWORM IN A NEW-BORN INFANT.—T. Campbell MacCormac writes to the *Lancet:* "In reference to the two instances cited in the *Lancet* of ringworm in new-born infants, I may also add my quota to the cases of your correspondents. On April 13 I attended a young woman in her confinement, and a few days afterward the nurse drew my attention to a small ringworm about the size of a sixpenny piece on the scalp. One application of tincture of muriate of iron cured it. I may say that tincture of muriate of iron is almost a specific in ringworm."

BIOGRAPHY.

THE LATE DR. WILLIAM OWEN BALDWIN.

William Owen Baldwin, M.D., of Montgomery, Alabama, died at his residence in that city on Sunday, May 30, 1886. He was born in Montgomery County on August 9, 1818. Dr. Baldwin was the son of William and Celia (Fitzpatrick) Baldwin. His mother was the sister of U. S. Senator Benjamin Fitzpatrick, formerly Governor of the State of Alabama. After receiving a good collegiate education he studied medicine in the office of Dr. McLeod, of Montgomery. He attended medical lectures at the Transylvania University, Lexington, Ky., and received his degree of M.D. in 1837. He began practice in Montgomery, and was associated with Dr. Wm. M. Boling, which association continued until 1848. In the meantime he visited Europe, and spent a year there in study in the leading medical schools and hospitals.

He was ambitious and well prepared in his profession, and justly took high rank among the foremost practitioners in his section of the country; and he was an interested student up to the time of his death. In debate he was a ready and eloquent speaker, and was an elegant and fluent writer. The medical journals contained numerous and valuable articles from his pen, from the time of his graduation to within the past year. His graceful tribute to the memory of his old and esteemed friend, Dr. J. Marion Sims, will be remembered by most physicians of the present day. But he also wrote well on many of the more important diseases and questions of interest to the profession of the South. He was an original member of the Medical Association of Alabama, has served as its President, and was a valued contributor to its *Transactions*. He was also an active member of the Medical and Surgical Society of Montgomery County, and was honored with its highest offices. He was a member of the American Medical Association in 1868 and its President in 1869, presiding at the meeting in New Orleans in that year. His address as President on that occasion is replete with Christian and patriotic sentiments, so beautifully expressed and well timed as to remain shining landmarks in the history of the Association. The committee charged with organizing the Ninth International Medical Congress, which is to assemble in Washington City in 1887, had chosen Dr. Baldwin as one of its Vice-Presidents, his success in the profession and his high character as a man fully warranting the selection. In social life he was by nature a leader; his culture and refined feelings of a high order gave him real, not accidental prominence. Well versed on almost every topic, with a deferential manner and an agreeable voice, he was the chosen and welcome oracle of every circle.

Dr. Baldwin had been in poor health for several years, but his friends at a distance hoped his life would be spared for further usefulness. He leaves a wife and several sons and daughters.—*Journal of the American Medical Association.*

DR. JOHN M. JOHNSON.

The medical profession of Atlanta has lost its oldest, most popular and best-beloved member. Dr. John M. Johnson died on the 18th of May, of a complication of disorders from which he had long suffered. He was born in 1810, and was consequently in the seventy-sixth year of his age. He was born and reared in the western part of Kentucky, and practised his profession there with diligence and success for many years, ranking, as he would have done anywhere, among the most eminent of his calling. The stirring political events of the period aroused his patriotism and demanded his participation. He held many positions of public trust, and at the breaking out of the war between the States was a member of the State Senate. His prominence and activity on the Southern side caused the issue of an order for his arrest by the Federal authorities. He narrowly escaped, and joined the Southern forces under General Albert Sidney Johnson. From that time his life and fortunes were with the South. After arduous services as a medical officer in the army, he established his residence in this city. Here he lived—honored, trusted, beloved, as few men have ever been—until the final summons reached him.

In this brief notice it is impossible to speak fitly of the powers of his intellect and the charm of his manner, which gave him eminence and reverence as a physician; of his expansive benevolence, as universal as the dews of heaven; of the wealth of music and poetry with which nature had endowed him; of the exhaustless and refining wit, whose scintillations delighted all who were favored with his instructive association. Our humble task is but to chronicle his death and place a simple chaplet upon his grave.—*Atlanta Medical and Surgical Journal.*

ORIGINAL CORRESPONDENCE.

LETTER FROM PARIS.

Ferran and Pasteur—Cholera Sensations—Death of du Saulle—War in the School of Pharmacy—The Academy of Medicine—Foreign Physicians.

15 Rue Caumartin,
PARIS, *May* 20, 1886.

To the Editor of Gaillard's Medical Journal.

DEAR SIR: It seems that Ferran was not so completely demolished as his adversaries supposed. Instead of being annihilated, he has only been biding his time, and the Madrid journals now announce that he has obtained the authorization of the Government to repeat his experiments should there be another outbreak of cholera in Spain.

There is nothing like possessing the courage of one's opinions, and the pertinacity with which this young man has adhered to his plan for the prevention of cholera, despite the anathemas of the Academy, the ridicule of his rivals, and the incredulity of the world in general, has something of real sublimity in it, and demonstrates, at least, that he believes in himself and his mission.

The truth is, the success of Pasteur has so impressed the public mind with the preventive power of vaccination in one direction that the world is prepared to expect its success in all others, and ready to give a fair field and a full hearing to every man who proposes to invoke it in behalf of suffering humanity. Besides, he has reaped such an abundant harvest of honors—has gained so much of the world's applause and admiration—that a new impetus has been given to national as well as to individual ambition, and each country is seeking to produce some rival to his fame, so that France may not enjoy a monopoly of glory in this regard. Hence it is that Ferran, who but a year since was ridiculed as a pretender by his own countrymen, and refused permission to continue his experiments at Madrid, is now brought forward under governmental sanction to contest the field with Pasteur in the prevention of disease, and given a chance to demonstrate whether he is an idle dreamer or a real benefactor to his kind.

Pasteur has the advantage of him in one respect, viz.: in the opportunity to test the practical efficacy of his method. Hydrophobia seems to be a disease which is always present. Not a day arrives without bringing with it some one who has been exposed to the contagion of rabies. Although but a few months have elapsed since the announcement of the discovery, more than one thousand persons have sought his treatment, and the cry is "Still they come." Cholera, on the other hand, is capricious in its visitations. Although for the last three years it has made its appearance in Europe, there is no certainty that it will reappear this year or for many years to come. And while the Frenchman is being surfeited with well merited honors, the Spaniard may not have an opportunity to acquire one. What the correspondents of certain sensational journals will do for an occupation should there be no epidemic of cholera in any portion of Europe during the coming summer it is impossible to conjecture. With double-leaded capitals, the most startling captions, and every possible device for attracting public attention, the terrors of an imaginary epidemic have been daily depicted, and dwelt upon for the last three seasons, seemingly with the deliberate purpose of diverting the tide of travel from Paris, and of doing injury to the pecuniary interests of all who depend upon strangers for a livelihood. The fact of the prevalence of the disease at Naples, Madrid, Toulon, and Marseilles has been taken advantage of to connect it with this city, and sensational despatches have been regularly forwarded, teeming with details of its ravages, though save in a single instance—a visitation which lasted but three weeks, and confined itself to the most remote sections—not a case has occurred here for many years.

Cupidity and competition have supplied the motives for this perversion of the truth. This sacrifice of the interests of defenceless persons—this violation of the obligations of hospitality, for the authors of these graceless and ungrateful libels have received only kindness and consideration at the hands of the

French people. Of course, there are correspondents here who have not stooped to this cut-throat system of journalism. Indeed, none with reputations to lose or names to sully have taken part in it. It has been done exclusively by a class of penny-a-liners who are the bolder, and, consequently, the more dangerous, because of their conscious obscurity and insignificance—who fire their shots from the masked battery of an *anonymous* signature or no signature at all, and in that spirit of licentiousness which is invariably born of a sense of security and irresponsibility.

As an evidence of the recklessness with which such statements are made, I will relate an incident which came under my own observation. In the early part of last summer—when travelers generally were forming their plans for the season—a statement appeared in one of the leading New York journals, under the sensational caption of " France invaded by the Scourge," to the effect that the cholera had crossed the Pyrenees, and had carried off several victims on French soil, etc. In order to ascertain the truth of the matter, I addressed a letter to Dr. Brouardel, enclosing the statement, and asking for definite information as to its correctness. He promptly replied that there was not a word of truth in the story—that not a case of cholera had occurred in France—and, to my certain knowledge the disease did not " cross the Pyrenees" for more than two months afterwards. *Ex uno disce omnes.*

Whenever cholera really exists in Paris, the fact is announced by the authorities, and an " Official Bulletin " is published, giving the daily death rate. No statement in this connection, however sensational its manner of announcement, or with whatever minuteness of detail it may be given, is, consequently, worthy of the slightest confidence unless it is accompanied by this " Official Bulletin ;" and I sincerely hope that the general public will remember this significant fact and will act upon it.

Another noted Frenchman has just paid the debt of nature. Dr. Legrand du Saulle was buried recently with all the honors usually accorded a distinguished *savant*, and all the sympathy and sorrow due to a great man. As the physician of Salpêtrière, the *Médecin en Chef* of the Prefecture of Police, and an officer of the Legion of Honor, he had long played a conspicuous *rôle* in France, and played it well and nobly. Though only fifty-six years of age, no man was better known or more universally esteemed ; and his death has sent a pang of sorrow through many hearts in all classes of society. As a medical expert he had made for himself an exceptional position—he had come to be an integral element in the jurisprudence of the country—and the correctness of his diagnosis, the aptness of his judgment, the profundity of his knowledge alike of medicine and of human nature, and his competence in all regards as a medical jurist, were appreciated to such an extent that he was appealed to in all cases in which the departments of medicine and of law sustained reciprocal relations.

His clinics at Salpêtrière were among the chief medical attractions of Paris, for he possessed all the qualties essential to a successful lecturer—a thorough knowledge of his subject, the gift of eloquence, a perfectly charming manner, a power of logic that rendered his conclusions inevitable, and a faculty of adaptation out of which flowed a continuous current of sympathy between himself and those whom he addressed.

His *confrères* loved and honored him; his students entertained for him an affection akin to idolatry; his patients regarded him with sentiments of commingled respect and confidence; and the entire community reverenced him as one above and beyond ordinary humanity—as a thoroughly good and a really great man.

There was, in fact, about him—in the glint of his kindly eye, in the tones of his sympathetic voice, in his entire manner, style and appearance—a nameless but resistless attraction, which disposed every one to regard him as a friend, and inspired towards him a universal sentiment of faith, sympathy, and affection.

Born at Dijon, in 1830, he made a brilliant career in the schools of his native city, and graduated with distinction in the Medical College of Paris in 1856. Ten years afterwards he became the assistant to Lassègue at the Prefecture of Police, and in the following year was made the physician to Bicétre. From thenceforward he devoted himself exclusively to the study of insanity and medical jurisprudence, taking a leading part in the discussions of the *Société Medico-Psycologique*, and finally becoming one of the founders of the *Société de Médecine Legale.*

During the Franco-Prussian war he was assigned to the charge of the principal small-pox hospital of Paris, and on account of the exceptional activity, courage, and intelligence which he displayed in that connexion, he was decorated with the Cross of the Legion of Honor—the guerdon most dear to a Frenchman's heart. So soon as peace was concluded he returned to his duties as an expert and professor, but found the time, notwithstanding the onerous and absorbing nature of his occupations, to write some excellent treatises on subjects connected with his specialty. Of these works "*La Follie Devant les Tribunaux*," "*La Délire de Pérsecution*," "*L'Etat Mental des Epileptiques et des Hysteriques*," and "*La Validité des Testaments*," are the best known and the most highly esteemed. All of his writings, however, display great learning, research, and ability, and have tended to fructify the domain of medical jurisprudence and to give reputation to their author.

Though of delicate *physique*, his ardor for work could not be restrained, and he really sacrificed his life to his devotion to duty. His great characteristic was amiability, a kindness of heart which knew neither limit nor restriction. No man ever asked a favor at his hands without receiving it. He passed his entire life, in fact, in doing kindness, in contributing to the happiness of his fellow-man. To his sympathetic nature every son of humanity was a friend and a brother, and whether the call for service came from a lunatic cell, a culprit's dungeon, a pauper's hovel, or a rich man's palace, it was responded to with the same measure of alacrity and pleasure.

He will be greatly missed in society, of which he was the special ornament and attraction; in the profession, to which he added lustre and distinction by his skill as a physician, his eloquence as a professor, and his gifts as an author; and in the *Palais de Justice* where his knowledge of human nature, his profound learning in his specialties, and his intense enthusiasm for justice and humanity, rendered him at once a perpetual shield to the innocent and an unfailing terror to the guilty.

It is pleasant to contemplate such a career as this—the life of a man who with the gravest responsibilities upon him, and herculean duties to perform, yet found time to devote himself to the extension of the boundaries of human knowledge, to the glorification of his profession, and to the *rôle* of a humanitarian, in the fullest and noblest sense of that term; and I have gone into these details respecting him because it was at once a labor of love to do so, and I hoped that by thus holding up his record to those whom he has left behind it may prove a lantern to guide the feet of others into paths of equal usefulness, success, and honor.

For the last two weeks a bitter warfare has raged in the *Ecole Supérieure de Pharmacie* between the students on one side, and the Professor of Pharmacy on the other. It seems that the latter devotes himself to botany almost to the exclusion of chemistry, frequently taking the class to the woods in search of specimens, and being particularly severe in his examinations on that portion of his course. Indeed, the students assert that their education in a practical and important branch is being neglected in order that they may be instructed in another which is not likely to be of special use to them, and that, consequently, they are being subjected to an unnecessary expense and to a useless waste of time. Having warned him in advance that they would no longer listen to his lectures on botany, they drowned every word that he uttered with yells, songs, and cries of "resign! resign!" when he attempted to defy them in that regard. Had this occurred in America, the professor would have been compelled to yield to the wishes of his class or to resign his chair *instanter*, but they do things differently in France. Dr. Chatin, instead of yielding to the pressure brought to bear upon him, made a dead issue with the students, and appealed to the police for protection, with the result of the arrest of several of the most recalcitrant, and his possession of the field. Still, he is not happy, for the spirit of insubordination has not been quelled; and though he regularly talks out his hour, it is to empty benches, or to "encores" which are given with such emphasis and pertinacity as to drown his every word, and to render his lectures only ridiculous pantomimes—lip movements and gesticulations, unaccompanied by audible sounds, while an occasional egg, potato, or turnip is hurled against the blackboard, to the ruin of the elaborate diagrams with which he has filled it in order to illustrate his subject. He has gained a victory, it is true, but it is like the triumph of Pyrrhus, or the luck of the man who drew the elephant, and he is in a worse position even than before. The professor is evidently a most irrascible individual, for he has brought a suit for defamation of character against a journal which simply published an account of a meeting held by the students for the purpose of formulating their grievances and appealing to the public for support. As in this country "the greater the truth, the greater the libel," before the law, he may succeed in securing damages from the reckless editor, but that will hardly help him much in his dispute with his class, and unless he arrests all of its members, and lectures for the remainder of the term to empty benches, he is likely to come out second best after all. Speaking of the omnipotence of classes in the United States, I am reminded of an instance in which a professor of ability was once hooted from the lecture-room, and forced to resign his chair, for having pronounced *Bichat*, the name of the celebrated French *savant*, *Bi-chat*. And of another in which a colleague of mine met with the same fate, because, in lecturing on *asparagus*, he persistently called it by the popular name of *sparrow-grass*, though he has subsequently become rich and renowned as an author, his deficiency in early education to the contrary notwithstanding. Unfortunately for these poor fellows, they lived in a real democratic country, and had no pliant police to protect them against their indignant and exacting classes. A professor who has the ill-luck to become unpopular with his students has, indeed, a hard road to travel, and, when a distinct issue is joined between him and them, nothing remains but for him to surrender or to resign at the earliest possible moment—the latter being generally the more reasonable and honorable course.

At the last meeting of the Academy of Medicine, Mr. Villemin made an interesting report concerning erythema. According to him it is not simply a local disease but a constitutional one. Under the general head *erythémé polymorphe*, he includes all the varieties which have been described by dermatologists, and regards the eruption as only one of its symptoms, while the pain in the fibrous tissues, and the swelling about the joints, have no connection with rheumatism, as has been supposed, but are manifestations of the same unique and independent malady.

This ætiological identity is established by another fact, viz.: that the iodide of potassium is a specific for all forms of this malady, curing them invariably in from 24 to 48 hours. Relapses are of frequent occurrence, but they yield readily to this remedy.

Mr. Feulard, a young but distinguished *interne*, presented also a paper on *tinea capetis*—a subject which he has specially studied since the application of the new laws respecting recruiting in France. According to him, the disease is better understood and distinguished now than formerly, while it has totally diminished in the frequency of its occurrence. Twenty years ago, the number of young men who were exempted on this account was 1,100, while last year it was only 300. He recommends that it shall no longer be regarded as a disqualification for military duty, inasmuch as recruits can be better treated and more readily cured, while exemption offers a premium to parents to cultivate the disease up to the day of conscription, thus rendering each case a constant foyer of infection to those brought in contact with it at home. He predicts that it will soon disappear from the country, especially if there is no inducement offered for its perpetuation.

The medical press is still harping upon the subject of foreign physicians, alleging that authorizations have been so recklessly accorded as to permit the practice of medicine in France by parties who have not the right to do so in their own countries, and proposing a prompt "weeding out" of these presumptuous aliens. This charge is doubtless true of the German physicians who are domiciled in France, because after a university diploma has been obtained in that country a *staats examen* has to be passed before the right to practice medicine is acquired, but with these exceptions the point made is devoid of all pertinency. To my certain knowledge no American has received the license to practice medicine in France for more than ten years, though many have earnestly sought it, and of those to whom it has been accorded in the past, not one was without a diploma giving him all the rights and privileges of a physician at home.

The foreign *clientèle* of this city is a very tempting thing, and the zeal which French physicians affect in behalf of the rights of the public and the dignity of the profession is inspired principally by a desire to possess it. No "weeding out process" is necessary, however, to secure the gratification of the cupidity which has been thus engendered, for, with the policy of refusing authorizations to all applicants, and the work which *pallida Mors* is constantly doing in their interest, the field will soon be cleared of all but native contestants, and the rich prize which they so earnestly covet will be theirs exclusively and forever.

With best wishes, I remain very truly and respectfully yours, etc.,

EDWARD WARREN (BEY,) M.D., LL.D.

REVIEWS.

DICTIONARY OF PRACTICAL SURGERY. By various British Hospital Surgeons. Edited by Christopher Heath, F.R.C.S., Holme Professor of Clinical Surgery in University College, London, Surgeon to University College Hospital; Member of the Council and Court of Examiners of the Royal College of Surgeons of England. Vol. I. Abdomen—Lymph-Scrotum. Vol. II. Macroglossia—Zygoma. Philadelphia: J. B. Lippincott Company. 1886. Pp. vi.—970. 880.

This new dictionary of surgery, as would be inferred from the number of pages contained in it—both these large volumes being published under one cover—is a ponderous tome; but it is as replete with richness of matter as an egg is full of meat. While we miss from the list of contributors the names of Mr. Bryant, Mr. Erichsen, Wm. Adams, Reginald Harrison, Sir Spencer Wells, Lawson Tait, Robert Keith, Morrell Mackenzie, and Sir Joseph Lister, it will be found to be a fairly representative exhibition of the British surgery of to-day, and no pains have been spared to make the work as satisfactory as possible in every detail. While each writer has signed his articles, and is responsible for them, the editor states that he has, of course, exercised a general supervision, and has endeavored to prevent the promulgation of crude theories, or the inculcation of doubtful practices. At the same time, he has not attempted to reconcile the views of surgeons who may happen to differ on points of practise; nor does he endorse every statement put forth by the various writers. It was found impossible to illustrate the Dictionary, both on account of the extra space which would have been occupied, and also on account of the time required for the production of original woodcuts, the idea being to make the work as compact as possible, and to have it present the latest views on all the subjects treated. It is worthy of note in this connection that only two years have elapsed between the first planning of the Dictionary and its publication.

In it are to be found compendious notices of all the surgical ills that the human body is subject to, from the crown of the head to the sole of the foot, as well as a number of affections which are only more or less remotely connected with surgery, such as diseases of the skin, Charcot's disease, chronic rheumatic arthritis, chyluria, craniotabes, and delirium tremens. The name of Mr. Heath is sufficient guarantee of the general character of the work, and with him are associated in it most of the greatest modern surgical authorities in Great Britain; all the writers being selected as recognized experts on the subjects treated by them. Thus, to mention but a few of them, in looking through the index of authors we find that Richard Barwell contributes the articles on hectic fever, scrofula, and tubercle; A. Pearce Gould writes on diseases of the testis, hæmatocele, hydrocele, hernia testis, castration, diseases of the spermatic cord, diagnosis of affections of the popliteal space, wounds of the popliteal artery, popliteal aneurism, contraction of hamstring tendons, varicocele, varicose veins, and diseases of the vesiculæ seminales; Berkeley Hill, on diseases of the bladder, stricture of the urethra, extravasation of urine, strangury, perineal abscess, bougies, catheters, *la boutonnière* operation, diseases and injuries of the urethra, urethrotomy, urethroplasty, and urinary fistula; Jonathan Hutchinson, on syphilis, congenital syphilis, chancre, finger-chancre, bubo, gumma, and vaccination-syphilis; Clement R. Lucas, on dislocations, diagnosis of injuries and diseases about the hip and of injuries and diseases about the shoulder, and wounds of joints; Sir Wm. MacCormac, on gunshot wounds, and sabre and bayonet wounds; Wm. MacEwen, on diagnosis of head injuries, fracture of the skull, encephalitis, meningitis, abscess of the brain, compression of the brain, concussion of the brain, hernia of the brain, osteotomy, grafting, and tracheal catheterism; Howard F. Marsh, on fractures and hip-disease; Sir James Paget, on old age; Sir Henry Thompson, on tumors of the bladder; J. Knowsley Thornton, on abdominal tumors, diseases of the broad ligaments, Cæsarian section, diseases of the Fallopian tubes, laparoelytrotomy, oöphorectomy, ovarian tumors, ovariotomy, Porro's operation, diseases of the spleen, symphysiotomy, uterine tumors, and extirpation of the uterus and uterine appendages; and Frederick Treves, on air in veins, artificial anus, intestinal obstruction, laparotomy for intestinal obstruction, colectomy, colotomy, fœcal abscess, and fœcal fistula, enterectomy, enterotomy, inflamed hernia, obstructed or incarcerated hernia, femoral, inguinal, and other varieties of hernia, lymphadenitis, lymphadenoma, lymphangeiectasis, lymphangitis, lymphorrhœa, and injuries and diseases of the thoracic duct.

Mr. Heath himself writes on abdominal surgery, aneurism, diseases of the joints, affections of the gums, dentigerous cysts, operations on the jaws, and fracture of the alveolus; while among the medical writers are found Dr. Frederick T. Roberts, who contributes an article on delirium tremens, Dr. Wm. R. Gowers, who furnishes one on pseudo-hypertrophic muscular paralysis, and Dr. Dyer Duckworth, who is the author of the articles on Charcot's disease and chronic rheumatic arthritis. The various subjects are treated of, so far as practicable, in the following order:—1. Cause; 2. Pathology; 3. Symptoms and Diagnosis; 4. Treatment; 5. Prognosis.

Many of the authors give due credit to American surgeons for what they have accomplished in the various departments assigned to them, though there are some marked exceptions in this regard; and perhaps the most unreserved tribute to the achievements of American surgery is paid by Mr. C. Hilton Golding-Bird in his article on caries of the spine. In the treatment of this affection the *only* form of mechanical support which he mentions is the plaster-of-Paris jacket of Dr. Sayre, the notice of which he begins by designating it as "the instrument best adapted for the purpose." In the course of his remarks on its application he gives some account of two modifications, the hammock method of Davy, and the recumbent method of Walker, and then goes on to say: "The writer recommends and employs Sayre's original plan, as he fails to find any advantage in the modifications described."

Besides the index of authors, giving the contributions of each, there is an excellent general index for the purpose of facilitating reference to sub-headings.

In consequence of the immense amount of matter contained in the Dictionary the publishers have found it necessary to print the text in double columns of somewhat small type, and on comparatively thin paper; but the typographical work is excellent, and altogether the volume will constitute a most useful and handy addition to the practitioner's working library. The price of the book, bound in cloth, is $7.50, which is certainly very reasonable for nearly two thousand pages of such valuable matter.

ANNUAL REPORTS OF THE ADJUTANT-GENERAL OF THE STATE OF NEW YORK FOR THE YEAR 1883 AND 1884. Albany: Weed, Parsons and Company, Legislative Printers.

In these reports are included the very interesting and instructive reports of the Surgeon-General, Dr. Joseph D. Bryant. In regard to the latter the *New York Medical Journal* recently remarked: "Since the close of the war, there has been comparatively little real duty devolving upon the Surgeon-General of the State, and we are glad to see that Dr. Bryant has made work for himself, so to speak, by preparing elaborate annual reports on the affairs of the National Guard from a medical point of view, especially the sanitation of the State Camp of Instruction at Peekskill."

These reports of Dr. Bryant contain many suggestions of great practical value, such as the following: If regimental commandants would hold their medical officers accountable for the physical welfare of the men while under arms, and had their advice, the necessity of discharging many who can date their inability to perform duty from the time of some injudicious march or exposure would be diminished if not entirely checked. Medical officers should make ample provisions to meet all the ordinary emergencies associated with the movement of troops. It is not enough that they shall be hastily informed of the necessity of their services along the line, but a thorough organization should be had, that the soldier may receive all possible attention upon the arrival of the surgeon. As, for instance, the first sergeant of each company should be provided with a few simple though efficient remedies, the dose and general application of which should be instilled into his mind, as well as indelibly indicated upon the receptacle containing them; and he should be taught to distinguish pallor from cyanosis, and to treat the patient accordingly. The importance of fresh air, and the consequent necessity of keeping back the crowd, should likewise be impressed. A properly educated hospital steward is a most important adjunct to the medical department of a regiment. He should in all cases be entirely familiar with the physical and medical properties of drugs, and competent to dispense them. The physical examination of men prior to enlistment should be obligatory, rather than optional. The assertion can be safely made that there is to-day not a surgeon versed in the physique of the National Guard who has not had his attention comparatively frequently directed to members of a command for an apparently trivial complaint, and found distinctive and confirmed organic disease of one or more of the vital organs. Persons engaged in military, as well as civil, duties should be taught under these circumstances to husband all of their resources, rather than be permitted to use them up unconsciously in the performance of self-assumed duties. It is important that the medical officers should be impressed with the fact that one, at least, should be in camp at all times, and when rifle practice is taking place it is not enough that he should simply be in camp, but it is suggested that a properly equipped medical officer be at hand, or within quick call of the "firing point," in case of emergency.

Dr. Bryant reports that no death has occurred at the State camp, and that in no instance has a disorder appeared which could be attributed in the least to the improper sanitary condition of the camp or its surroundings. At the same time, the importance of keeping a careful watch over the water supply, especially in time of drought, is shown by an analysis made by Professor Chas. A. Doremus of the waters of the reservoir at the camp, and also of the "pond on the hill," from which it was purposed to replenish the reservoir at times of extreme drought. In concluding his report, Professor Doremus says: "Both waters are impregnated with organic materials which may prove detrimental to health. They seem comparatively free from sewage pollution. The sources of the supply should be carefully surveyed, and in summer the temperature of the water in the reservoir should be watched, and not allowed to exceed seventy degrees, Fahr." In view of the facts elicited by this examination, Dr. Bryant very properly suggests that an investigation should be had to ascertain whether or not pure drinking water of a sufficient quantity and quality can be obtained on the ground before the property is purchased by the State for camp purposes.

Dr. Bryant shows a thorough appreciation of the requirements which should be met in an efficient medical officer of the National Guard, and in both these reports he dwells upon the importance of selecting properly qualified men for these positions. In the last one he says: "It should be the aim of commandants of organizations to name the best qualified medical officers possible. The fact that a separate company or a regiment is legally entitled to a medical officer, added to the assumption that he may never be required to do active duty, constitutes no just reason why a nondescript should be elevated by rank and its association to a position intended by law and requirement to be filled by a fully competent medical man. The person on whom such an honor is bestowed is placed in a false position, those entrusted to his care are betrayed, and the dignity of the National Guard is thereby assaulted." In both the reports are given elaborate tabulated statements of the physical ailments of the respective commands serving at the camp, accompanied by appropriate comments on the condition of the men during their camp-life. No one, even if he were previously ignorant of the signal ability displayed by Dr. Bryant in the office of Surgeon-General, could fail after examining these reports, to appreciate how much the State is to be congratulated on his recent well-deserved reappointment by Governor Hill.

THE STUDENT'S MANUAL OF VENEREAL DISEASES. Being a Concise Description of Those Affections and of their Treatment. By Berkeley Hill, M.D., Professor of Clinical Surgery in University College, London; Surgeon to University College and the Lock Hospitals, and Arthur Cooper, M.D., Surgeon to the Westminster General Dispensary; Formerly House-Surgeon to the Lock Hospital. Fourth Edition. Revised. Philadelphia: P. Blakiston, Son & Co. 1886. Price, $1.00, Cloth.

As the work of one of the highest living authorities on venereal diseases, in connection with a collaborator of exceptional ability and experience in the same department, it is natural that this little manual, which corresponds in arrangement, as far as possible, with the authors' larger treatise, "Syphilis and Local Contagious Disorders," should have found such favor among students and others that a fourth edition of it should now be called for. The title describes its character. It is concise, and yet no point of essential importance as regards elementary facts is omitted. In preparing a new edition the authors state that it was difficult not to increase the size of the book greatly beyond its former limits; but by careful revision and compression they have been able to find room for additional matter in almost every chapter, without very considerable increase in bulk. Some additions and alterations have also been made in the list of formulæ at the end of the volume; and, altogether, the manual will be found more useful to the student than ever before.

MISCELLANEOUS.

FAITH-HEALING.—The Rev. Dr. Buckley, editor of the *Methodist Christian Advocate*, concludes an article on "Faith Healing," in the June *Century*, as follows: "The faith healers represent God as interfering constantly, not by cause and effect in the order of nature, but affecting the result directly. Their want of superiority to those who are not Christians, but use either false pretences or natural laws, and their inferiority to Christ and the apostles, condemn their pretensions. Nor does it avail them to say, 'Christ would not come down from the cross when taunted by unbelievers.' They might perhaps with propriety refuse a test for *the test's sake*, though Elijah forced one. But in a close observation of their works the radical difference between them and those who they say have no divine help should be manifest. Some of them affirm that the Mormons, Newton and others, do their mighty works by the aid of devils. If so, since casting out devils was a miracle-working power of a very low grade, it is wonderful that none of these persons have been able to cast out the devils from any of the great number who are working in this way, and thus demonstrate their superiority, as the apostles vindicated their claims against Simon the sorcerer, and others.

"Faith-cure, technically so called, as now held by many Protestants, is a pitiable superstition, dangerous in its final effects.

"It may be asked, 'What harm can result from allowing persons to believe in 'faith-healing?' Very great, indeed. Its tendency is to produce an effeminate type of character which shrinks from any pain, and to concentrate attention upon self and its sensations. It sets up false grounds for determining whether a person is or is not in the favor of God. It opens the door to every superstition, such as attaching importance to dreams, signs, opening the Bible at random, expecting the Lord to make it open so that they can gather His will from the first passage they see, 'impressions,' 'assurances,' etc. Practically, it gives great support to other delusions which claim a supernatural element. It greatly injures Christianity by subjecting it to a test which it cannot endure. It directs attention from the moral and spiritual transformation which Christianity professes to work, a transformation which, wherever made, manifests its divinity, so that none who behold it need any other proof that it is of God. It destroys the ascendency of reason in the soul, and thus, like similar delusions, it is self-perpetuating; and its natural, and, in some minds, its irresistible tendency, is to mental derangement.

"Little hope exists of freeing those already entangled, but it is highly important to prevent others from falling into so plausible and luxurious a snare, and to show that Christianity is not to be held responsible for aberrations of the imagination which belong exclusively to no party, creed, race, clime or age."

A DOCTOR'S EXPERIENCES IN THREE CONTINENTS.—The following appreciative notice recently appeared in the editorial columns of the *Journal of the American Medical Association:*

Such is the title of a most interesting and charmingly egotistic book of some six hundred pages by Dr. Edward Warren-Bey. It is in a series of letters to Dr. John Morris, of Baltimore, and, being in the form of letters to an intimate friend, the frequent use of the first personal pronoun, so far from being at all disagreeable, adds to the interest of the volume. The letters are not in the form of a diary, but facts, dates and comments are given in a manner which is at the same time connected and disconnected. The personal memoirs of distinguished men are always of interest, particularly when well written, and it is apparent from these letters that Dr. Warren's fluency of speech is not greater than his readiness with his pen.

A man who took an active part in the surgery of the late war, who has been an active practitioner in two sections of this country, chief surgeon of the Egyptian War Department, and for some years an active practitioner in Paris, the friend of the much lamented Otis and Gross, of Charcot, Zeb Vance, Ismail Pasha, Landolt, Abbate-Bey, General Mott, Alfred Swain Taylor, Thomas Stevenson, and Sir James Paget, could not but have an interesting history. Very much of this written history is a record of trials and sorrows, some of which must come to everyone, and of difficulties overcome. Perhaps one of the most remarkable facts in the life of Dr. Warren is that he did not study the profession of his first choice—law—but was induced by his father to study medicine. This is chiefly remarkable on account of his eminently successful career as a physician.

Taken altogether, we do not know of any book the reading of which will make an evening pass more quickly or more pleasantly, and the chief regret on parting with it is that it is not longer. For those who are inclined to believe that there is nothing good in America, who buy their watches in Geneva, their umbrellas in Paris, and their ill-fitting clothes in London, we particularly recommend the following, from the last letter:—"Before bidding you adieu, I must say this much: The longer I have resided abroad, the more intensely American have I become, and the greater has grown my love and appreciation of my native land. Other lands may possess their treasures of art, their marvels of luxury, their triumphs of architecture, and all that is calculated to captivate the imagination and ravish the senses; but for the truest solution of the problem of human existence, the grandest victories of human skill over the laws of nature, the most fortuitous combination of those conditions which constitute society, and the perfection of a governmental system—that which governs the least and protects the most—America is the land preëminently blessed of Heaven. Call me an enthusiast if you will, but for me her skies are the brightest, her mountains the grandest, her rivers the broadest, her fields the greenest, her women the loveliest, her men the noblest, her history the proudest, and all that relates to her the best of all the world besides. Elsewhere her sons may be content to linger for a season, but to them she is the only land in which they can ever realize the idea of *home*, or feel that they are aught else than aliens and sojourners."

A SIMPLE METHOD OF KEEPING THE HYPODERMIC SYRINGE IN ORDER.—Dr. D. Tod Gilliam, of Columbus, O., writes to the *Medical Record:* "A simple and efficient method for keeping the hypodermic syringe in order is as follows: Draw out the piston-rod, immerse the syringe in water, then push the piston home, when the chamber of the syringe back of the piston-head will be found filled with water which entered at the orifice through which the rod plays. This will not leak out, will keep your syringe in prime order, ready for any emergency, and will save money as well as annoyance by enabling you to use a syringe that would otherwise be discarded. As the device is so simple, entails no trouble, and the syringe being once filled need not be looked after for weeks or months if need be, I thought it worth mentioning."

A MAINE DOCTOR'S ADVENTURES—VACCINATING AT THE MUZZLE OF A GUN.—A Maine doctor, who weighs two hundred pounds, and was stationed as an inspector in the woods near the border, recently told me in an interesting way some of the adventures—and adventures they were, indeed—which he had during his official stay in the wilderness during the late smallpox scare.

"I was sent," said he, "to Lowell's Township, through which the Canadian Pacific Railroad will pass. My station was near Gordon's Camp, where about eighty men employed on that railroad were encamped. The nearest railroad station was at Lake Megantic, twenty-eight miles away. I built a log cabin and constructed a gate across the road. No man went through that gate without being vaccinated. I had to deal with a rough class of men, and had some scrapes that would read like a dime novel. My two assistants, a rifle, a revolver, a Newfoundland dog, and a suit of clothes with brass buttons, which I procured after I'd been there a while, helped me out. You see, nobody lived near, and I had no moral support. I had to rely wholly on my display of physical force.

"Soon after we were established we went down to Gordon's camp, and in one day vaccinated every man of the eighty-five employed there. They rebelled against it, but we made no talk with them, going through them like a flock of sheep. Several days afterward word came to me that a crew was coming from the camp to tear down my cabin and send me home. Some of the men's arms had swollen and become exceedingly sore. I went down to the camp at once, and found a mutiny impending. Many of the men were sick and angry. Several of them were laid up and suffering severely. I explained the nature of their trouble to them, and told them if they would keep calm I would relieve them of their pain. With the help of morphine I was able to prevent the rumpus. I tell you it was an excited crowd. They were afraid that all of them would be taken down.

"A burly Scotchman swore he would pass my station without being vaccinated, one day. He was one of a dozen desperate fellows. I had a pitched battle with him at last, and actually vaccinated him with my foot on his windpipe. Meanwhile my assistant kept off the others with his gun. We stuck the quill into every one of them. Often the Canadians tried to get by me by stealing around through the woods. One man, in making such an attempt, was lost in the night. We heard his cries and started in search of him, and a more scared man than he was when we came upon him you never saw. They adopted a curious way to sneak by the Moose River inspector one day. Four men concealed themselves in a load of hay, and passed without being noticed. They crawled out too soon. At the Forks they were stopped and sent back to be vaccinated.

"I was surprised to see the prejudice these fellows had against vaccination. It existed among the Scotch and English as well as among the French."—*Lewiston* (*Me.*) *Journal.*

A SKILLFUL PHYSICIAN.—An old member of the medical profession in this city tells us a story which he says Dr. J. Adams Allen told him many years ago. Dr. Allen, as the story goes, was just beginning his practice, when one winter day, seated in a car muffled to the ears, he overheard this conversation between two passengers who were sitting where they could not see his face: "Say, George," said one, "what kind of a doctor is this young Allen?" "All I know about him is that he snatched my aunt from the grave last summer—that is, I shall always think he did." "Did he, indeed?" said the other; "well, he must be a pretty good doctor, then. What was the matter with your aunt?" "Oh, she was dead and buried, you know."—*Chicago News.*

A COSTLY KISS.—A dentist in Berlin has been sentenced to three months' imprisonment for kissing a lady, on whose teeth he was operating in his house.

MEDICAL NEWS.

THE NEW YORK SOCIETY FOR THE PREVENTION OF CONTAGIOUS DISEASES has opened an infirmary at 303 West 42d Street, in this city. Among the Directors are the Hon. Charles Donohue, Judge of the Supreme Court, Coroner Ferdinand Levy, Ex-Congressman Benjamin A. Willis, and Drs. T. Gaillard Thomas, Alfred L. Loomis, James O'Reilly, Herman Lowenthal, and John Alsdorf. This Society has lately been organized, with Dr. Lowenthal as President, and Dr. Alsdorf, Secretary, and it has for its objects: First.—To endeavor to prevent the dissemination of syphilis and other contagious venereal diseases in the city of New York. Second.—To oppose all measures having for their object *the State regulation of vice;* and, by establishing *sanitary surveillance* without *legalization*, do away with any excuse for such *regulation.* Third.—To establish an infirmary for the reception and gratuitous medical and surgical care of such persons as may be afflicted with venereal disease.

In the announcement of the Society, which has recently been published, it is furthermore stated that any person afflicted with venereal disease will receive medical and surgical treatment, also medicine, free of charge; that agents will be sent out to search among the afflicted for those who are unable to pay a physician, and feel reluctant to enter the public dispensary or general hospital (on account of the exposure and supposed degradation), and urge them to apply to the Society for free treatment; and that the Infirmary is to be made the centre of the Society's best work. The announcement also contains the address of Dr. Alsdorf before the Legislative Committee on Public Health, at Albany, Feb. 24, 1886, and the reportof the Committee of the American Public Health Association on a Plan for the Prevention of the Spread of Venereal Diseases, by Albert Gihon, M.D., Medical Director, U. S. Army, Chairman. The former states that the practical work of the Society, until experience may develop other and better methods, will beas follows: The general public will be appealed to for the necessary funds; competent physicians will be appointed to act as agents, and paid for their ser-vices out of the funds of the Society; blank reports will be sent to all of the physicians and medical institutions in the

City of New York, their co-operation solicited, and a request made that whenever a patient comes to their office or any medical institution with which they may be connected, infected with syphilis, they will endeavor to find out where the disease was contracted, and, if possible, the name of the infected person, and report to the Society. Upon such information the agents of the Society will proceed to the designated house, ask permission to examine the suspected persons, and, when found, persuade them to submit to medical treatment. In this manner, it is hoped, many sources of infection will be "nipped in the bud," and the community at large reap the benefit.

THE ONE HUNDRED AND TWENTIETH ANNUAL MEETING OF THE NEW JERSEY STATE MEDICAL SOCIETY was held at Sea Girt, June 8 and 9. The address of the President, Dr. Joseph Parrish, of Burlington, was on the "Geography of Malaria," and the Committee on Business announced as the subject for discussion at the next annual meeting: "What is the Personal Experience in the Use of Antipyrine; Does it permanently reduce temperature, or modify the course of disease?" A number of papers were read and discussed, and a resolution was adopted approving of vivisection and expressing disapproval of the action of societies or persons who, on the ground of prevention of cruelty to animals, would throw obstacles in the way of experiments having for their object the relief of human life. The following officers were elected: President, Dr. Charles J. Kipp; Vice-Presidents, Drs. H. G. Taylor, John W. Ward, and B. A. Watson; Corresponding Secretary, Dr. Wm. Elmer, Jr.; Recording Secretary, Dr. Wm. Pierson, Jr.; Treasurer, Dr. W. W. S. Phillips.

MASSACHUSETTS MEDICAL SOCIETY.—The one hundred and fifth annual meeting of this Society was held in Boston, June 8 and 9, Dr. C. D. Homans presiding. The annual discourse, by Dr. Richard M. Hodges, was on "Undercurrents of Modern Medicine." It was announced that 78 new Fellows had been admitted during the year, and that the membership now amounted to 1,605.

CONNECTICUT MEDICAL SOCIETY.—The ninety-fifth annual meeting of this Society was held in New Haven, May 26 and 27, Dr. E. C. Kinney presiding. The subject of the President's annual address was "Diabetes Mellitus." The following officers were elected: President, Dr. T. M. Hills, of Willimantic; Vice-President, Dr. Francis Bacon, of New Haven; Secretary, Dr. S. B. St. John, of Hartford; Treasurer, Dr. E. P. Swasey, of New Britain.

THE FLORIDA STATE MEDICAL ASSOCIATION met at Palatka, May 18 and 19. Dr. N. D. Phillips presided, and the address of welcome was delivered by Hon. R. W. Davis, of Palatka. The address of the president was devoted to the condition, interests, and objects of the Association. In the course of it he said: "In my judgment, the great question of the hour, that upon which the elevation and well-being of the medical profession in Florida depend, is organization, *thorough and strong organization*. Ask members of our profession in those States where they have received most recognition, and been clothed with most power and authority by legislative enactments, to what are they most indebted for the elevation and authority conferred upon them, and the answer will be promptly made, 'What we have done has been accomplished by organization.' And if we are to advance, it must be through better and better organization. What is applicable in one State is applicable in another, and if we, as a State Association, ever hope to obtain from the Legislature, all the laws we need, and such as have been enacted in other States for the advancement and mutual good of the profession and the people, we must effect a more thorough organization throughout the State."

The annual oration was delivered by Dr. J. S. Lyons. The following resolution was adopted: *Resolved*, That it is the sense of this Association that by restricting travel to persons acclimated to yellow fever, either by a previous attack of this disease or a continuous residence in a city where it is endemic, with inspection of vessel and detention and isolation in all cases of fever that may have been developed on board *en route* at the healthy port, commercial communication and travel to a certain extent are practicable by steamship transportation at all seasons, provided proper disinfection of personal baggage and freight capable of becoming fomites is practiced at the infected port prior to the departure of the ship.

Resolutions were also adopted urging the establishment of a National Soldiers' Home in Florida, and the erection and maintenance by the Treasury Department of a quarantine station at Key West, Florida.

A SCHEME FOR UNITING ALL THE REPUTABLE PHYSICIANS IN THE UNITED STATES IN ONE ORGANIZATION.—The *American Lancet*, in an editorial in the June number, proposes a plan for accomplishing this object by making certain changes in the American Medical Association. Let the Association, it says, request the several State medical societies to elect, at their annual meeting for 1888, one member to whom they are willing to commit all the interests of their several States that may be considered by the representatives from all the States. Let the members from the first third of the States, alphabetically divided, be elected for three years, those of the second third of the States for six years, and those from the remainder of the States for nine years. The term of office for all representatives subsequently elected, unless to fill a temporary vacancy, would be nine years. Adequate provision could be made by each State society to ensure that their representative was on hand at every meeting of the entire body. Let this body be called the Council or Senate of the American Medical Association. By it will have been created a body of men representing each State in the United States, holding office for nine years. It will be a small body, so that each will have a chance to fully discuss with the others all questions coming before the body. It will be a responsible body, because it will contain the same members for many years, and each State can hold its member accountable for his action. We shall have thus created a body of men fully representative, responsible, and so organized as to admit of the fullest deliberation on all questions placed before it. In short, to this council shall be committed the responsibility of a general direction of all the affairs of the Association. Their recommendations are not to become a law until endorsed by the delegates as now elected. It will thus be seen that this new body will have great powers; but these will all be checked by the presence of the body of delegates. * * * We have thus sketched in bold outline a plan which, if accepted by the Association and put in active operation, would do much to start the largest and most democratic medical association ever known. It would simply be an adaptation of the American Medical Association to the demands of new conditions. It would give to it and the entire profession the benefits of the most careful study of professional problems.

Thus it would enable us to work by knowledge rather than by impulse or the suggestions of crafty designing men.

THE LAST FATAL CASE UNDER M. PASTEUR'S TREATMENT appears to have been peculiar, and can hardly be placed in the balance against his method of prevention. It is true that the patient came under treatment fourteen days after the infliction of the wounds. But the wounds themselves made about the head, which were of an unusually severe nature, may fairly be regarded as possibly of a fatal character in themselves, apart from the introduction of the virus of rabies. The maniacal symptoms that the man presented were certainly out of the run of ordinary cases of hydrophobia, and the post-mortem examination appears to have revealed alterations in the lungs not ordinarily met with after death from that disease.—*Lancet.*

QUINTUPLE BIRTH.—*Il Morgagni* (May 29th) mentions the following case recorded by Polyakoff in the *Meditsinskæ Obozpéyne*, No. 10, 1885. A robust peasant, aged twenty-seven, of Syarai, Russia, after nine years' married life, became pregnant for the seventh time in June. In the latter period of pregnancy the abdomen assumed vast proportions, and on the 1st of March the woman gave birth to five female fœtuses at short intervals; three presented by the occiput, two by the feet. Each had a sac with separate amnion, but the chorion was common to all. The first fœtus was deformed and still-born; the others lived some minutes after birth. The single placenta weighed a pound and a half, and the umbilical cords were attached to its extremity. Four of the fœtuses were well formed; but the first born was microcephalic, and had not the full number of fingers or toes. The umbilical cord attached to this fœtus had an artery and a vein, but each of the others had three vessels.—*Ibid.*

THE INFANT KING OF SPAIN.—According to *La Lanceta*, Dr. Sanchez Ocana, the physician to whom is intrusted the honorable and responsible duty of attending the infant King of Spain, has interviewed no less than twenty-seven women for the purpose of choosing a wet-nurse for his youthful Majesty. It seems to have been decided before the birth took place that the Royal mother was not to be allowed the natural privilege which is properly so prized by most mothers of lower degree—would that we could say so of all! But where Royalty sets the fashion, what wonder is it that others, with no public or extra domestic duties whatever to attend to, and so entirely without excuse, hasten to depute the mother's duty to a stranger?—*Ibid.*

ALLEGED CURE OF HYDROPHOBIA BY SWEATING.—The report from Odessa of a case of cure after the onset of what are said to have been unmistakable symptoms of hydrophobia in a boy, lends some encouragement to Buisson's mode of treatment to which we have alluded (*The Lancet*, p. 655). The symptoms of the malady began seventeen days after the receipt of the bite from a dog authoritatively stated to be rabid. The boy, at once removed to the hospital, was placed in a warm bath, the temperature of which was rapidly raised to 42° Reaumur (125° F). At this stage the boy became unconscious and continued so for one hour. He was taken from the bath, swathed in clothes, and placed in a room at a temperature of 68°. The same process was repeated in the evening, and twice a day for the following three days, when the patient's appetite was fully restored. So far the boy has remained well.—*Ibid.*

THE STATUE OF HUNTER.—On the 29th ult., a statue of John Hunter, "the father of scientific surgery," was unveiled in the new Museum at Oxford by her Royal Highness Princess Christian, in the presence of a large assembly of spectators. Previous to the ceremony an address was delivered in the lecture-room of the Museum by Sir James Paget, who dwelt on Hunter's scientific curiosity and power of amassing facts, and the duties of a university to its students of science. Of this address we hope to give a report next week. An interesting account of the scientific movement in Oxford and the foundation of the Museum some forty years back, was afterwards read by Sir Henry Acland, who concluded by paying an eloquent tribute to the interest shown by the Queen and the late Prince Consort in the establishment of science in Oxford, and indicating the propriety of the act about to be performed by their daughter, the Princess, to whose interest in medical science and in all means for alleviating suffering he referred. The statue, which was then unveiled, is one of five statues, representing heroes of science, presented to the university by Her Majesty. It represents the great *savant* standing with the legs crossed, and supporting himself on a pillar or post, with a remarkably keen and searching countenance. The statue is in soft stone, and stands upon a bracket against a pillar, near the entrance to the Museum.—*Ibid.*

STATUE OF THE LATE ERASMUS WILSON.—The simple but impressive ceremony of Tuesday last in the grounds of the Royal Sea-bathing Infirmary, Margate, went off to the evident satisfaction of all concerned. As soon as the occupants of the special train from London had arrived on the scene, Sir James Paget stepped, uncovered, on to the platform and opened the proceedings in the simplest possible manner. In a few admirably chosen sentences, every one of which told with his audience, Sir James depicted the remarkable career of Sir Erasmus Wilson, pointing out the growth of his riches, the success of his practice in dermatology, and his great love for medical science especially. The benevolence which Sir Erasmus loved to exercise was not bestowed in a general manner, but was guided by discretion and applied to objects in which the benefactor took a personal interest. Late in life Sir Erasmus became what was rare—an ardent and successful student of Egyptology; and the obelisk on the Thames Embankment would remain a permanent monument of this study. Mr. Russell Lowell, in the capacity of Vice-President of the Egyptian Exploration Fund, also testified to the love that Sir Erasmus Wilson bore to the study of Egyptology, and for two years he had defrayed the expenses of this fund. The bronze statue was unveiled by Sir James Paget, and revealed a most artistic piece of work, executed by Mr. Brock, A. R. A. After the unveiling of the statue, the visitors were invited to inspect the buildings of the infirmary, where they had an opportunity of witnessing the valuable additions made to the ancient building by the munificence of Sir Erasmus Wilson.—*Lancet*, May 29.

THE DEATH OF PROFESSOR GUDDEN.—After all, the saddest thing in connection with the late King of Bavaria was the death of his physician, Professor Gudden. The last mad act of a selfish and useless life was to end the career of this distinguished and useful man. King Louis will be given a place in history because he was by chance a king. Professor Gudden's name will live because he contributed to science a new method of research, which has made an epoch in our knowledge of the structure of the body. The "atrophy-method" of Gudden is one now familiar to all students of medicine; it has helped immensely in elucidating the difficult problems of brain anatomy.

Professor Gudden died in the discharge of his duty, while struggling to prevent a madman from committing suicide. To his scientific honors he has added the crown of martyrdom; and so, with all the more care should his name be remembered and his memory cherished.—*New York Medical Record.*

PHYSICAL TRAINING FOR THE MILITIA.—On the 21st of June there was opened on Glen Island, near New Rochelle, a "Military Camp of Instruction in Marching," under the supervision of Edward P. Weston, the pedestrian. The competitors, who belong to the various New York militia regiments and volunteer for the contest, are each to walk twelve hours a day for six days, carrying 40½ pounds in the way of knapsacks and accoutrements, and the camp will be continued for nine weeks. At the opening, Professor R. Ogden Doremus, of this city, made an address, in which he said that he looked upon this movement as the initiative step towards splendid results in this country.

DR. OLIVER WENDELL HOLMES recently had the honorary degree of LL.D. conferred upon him by the University of Cambridge. On June 25 he also received from the University of Edinburgh the same degree, which was conferred in the presence of a most distinguished company.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF BALTIMORE is reported as being in a most flourishing condition, no less than one hundred and fifty students having been graduated from it in March last. This is no doubt due in a large measure to the very complete clinical advantages and facilities for practical research which the college offers, as it has under its exclusive control, besides three laboratories—physiological, pathological, and chemical—a general hospital, the Maryland Lying-in Asylum, the Woman's Hospital, and the City Dispensary.

KEEPING MICROBES OUT OF LOUISIANA.—A certain physician, Dr. Nunez de Villavicensio, who had been a disciple of Carmona, in Mexico, having recently arrived in New Orleans with some alleged yellow-fever microbes in his possession, somewhat of a public sensation resulted, and Senator O'Donnell, for many years attorney for the Board of Health, has, in consequence, introduced into the Legislature a bill entitled "An act for the better protection of the State of Louisiana in prohibiting the introduction of substances, matters, or things claimed to be infectious or contagious (vaccine virus excepted), capable, or claimed to be capable, of transmission by inoculation, except under a special permit from the Board of Health and to provide for the arrest and removal to the Lower Quarantine Station of any person or persons who have introduced such infectious or contagious matters into the State, and his detention at the Lower Quarantine Station at the discretion of the Board of Health, and for the seizure and destruction of such infectious or contagious matters."

CHEMUNG COUNTY MEDICAL SOCIETY.—The Semi-Centennial meeting of the Medical Society of the County of Chemung was held at the Masonic Temple, Elmira, N. Y., June 15, when the following order of exercises took place: President's Address, "Benevolence and Fraternity in the Medical Profession," Albert A. Baker, M.D., of Wellsburg; "Historical Sketch of the Society," Wm. C. Wey, M.D., of Elmira; Address on "The Advance in Medicine and Surgery for the past Fifty Years," Truman H. Squire, M.D., of Elmira; "Poem Commemorating the Occasion," Wm. Woodward, M.D., of

Big Flâts. Afterwards a banquet was held at the Rathbun House, at which Dr. Wey was toast-master.

THE SIXTH GENERATION.—Austin Flint, the grandson of the late Dr. Austin Flint, Sr., and son of Dr. Austin Flint, Jr., has just commenced the study of medicine in Bellevue Hospital Medical College, the family thus presenting the remarkable spectacle of six generations of sons consecutively devoting their lives to the profession of medicine.

NEW YORK STATE MEDICAL ASSOCIATION, SECOND DISTRICT BRANCH.—The annual meeting of this district branch was held June 22, at Troy. Among the papers were the following: "Some Considerations relating to Cardiac Sounds," by Dr. E. D. Ferguson, of Troy; "Renal Calculi and their Treatment," by Dr. Thomas Wilson, of Claverack; "A Plea for Constitutional Treatment in Pelvic Inflammations," by Dr. W. H. Robb, of Amsterdam; "Pneumonia—Past and Present," by Dr. W. W. Seymour, of Troy; and "Micro-organisms in Gynæcological Practice," by Dr. Samuel Peters, of Cohoes.

ASKING FOR GENERAL SHALER'S REMOVAL.—Mayor Grace has sent to Gov. Hill a recommendation that Gen. Alexander Shaler be removed from the position of President of the New York Health Department on the charges of bribery and corruption preferred against him.

MARRIED, April 17, 1886, at Baltimore, Md., by Rev. W. J. Young, Dr. Benjamin B. Dutton and Miss Amanda W. Towill, both of Middlesex County, Va.

DEATH OF DR. H. P. FARNHAM.—Dr. Horace Putnam Farnham, a most highly esteemed practitioner of this city, died June 9, after a long and painful illness. He was born in Salem, Mass., in 1822, and graduated from Harvard College in 1843, after which he began the study of law in the office of Rufus Choate. He also went through the course at the Dana Law School, and was admitted to the bar, but never practised. Later he decided to study medicine, and was graduated from the Jefferson Medical College, of Philadelphia, in 1860; since which time he has resided and practised in New York.

DEATH OF DR. FAUNTLEROY.—Dr. A. M. Fauntleroy, late Superintendent of the Western Lunatic Asylum, and one of the most eminent Virginian physicians, died suddenly at Staunton, Va., June 19. He was a brother of Judge Fauntleroy, of the Supreme Court. Dr. Fauntleroy was at one time a member of the Virginia State Board of Health, and was also physician to the Virginia Deaf and Dumb Asylum.

EDITORIALS.

THE REPORT OF THE STATE BOARD OF HEALTH ON BEER.—The numerous analyses of beers made by Mr. Englehardt, and published in a recent report of the State Board of Health, may appear at first sight to corroborate the dire forebodings of the prohibitionist orators, and to justify the gravest apprehensions in the collective mind of the thirsty public. "Substitutes for malt" are alleged or "suspected" in 70 out of 203 samples of ale examined;

in 13 out of 69 of porter; in 4 out of 28 of "weiss"; and in 21 out of 175 of lager; a showing, by the way, even in its most severe interpretation, rather creditable to the brewers of the naturalized Teutonic beverage, as it indicates but 12 per cent. of imagined "adulterations" in lager beer, against 34.45 per cent. in ale, and 18.84 per cent. in porter. It is farther noticeable that in no instance out of the 476 specimens analyzed was any "substitute for hops" discovered, a circumstance which will go far to allay the popular terror of being poisoned by strychnine, quinine, ignatia, aloes, wormwood, or other more expensive substances, and to assuage the anxiety of the politically influential constituencies of the hop-growing districts, in whose interests the investigation of malt liquors was crystallized into a separate enactment, on the eloquently maintained ground that the public health was largely dependent upon the hygienic sustenance and remedial recuperation of the overtaxed modern nervous system by means of humulus lupulus contained in beer, provided that the said beer should satisfy the rather undefined requirement of being "normal."

But a farther perusal of the analyst's report reveals the "attenuating circumstance" that in the majority of instances his suspicions or affirmations rest on the assumption that barley is the only grain which can produce a "normal" beer, and that rice, wheat, or indian corn are classed among his "substitutes for malt"; indeed, his suggestion for legislative control is that if brewers use anything but "barley-malt, hops, yeast, and water only," they should be compelled to label their products "rice beer," "corn beer," "sugar beer," etc. In but eight specimens, and none of these lager beer, is there a specified imputation of possible glucose or grape-sugar, the employment of which is inferred from the presence of sulphates in more than traces, while a comparatively less proportion of phosphoric acid to total ash is assumed as indicating the use of other amylaceous substances than barley.

For the proper appreciation of this report, the question naturally arises, from both sanitary and etymological points of view, whether there be justification for the distinctions drawn by the analyst. The word Malt is believed by lexicographers to be derived from the Anglo-Saxon verb "meltan", signifying to be fluid or liquid, and from whence we get also our adjective "melted," and its definition, taken from the first two dictionaries at hand, is, "Barley or other grain steeped in water till it germinates, and then dried in a kiln and ground;" "Grain, commonly barley, steeped in water and made to germinate, then dried in a kiln." Beer, though undoubtedly derived from the Anglo-Saxon name for barley, which was then and there the most plentiful raw material, is defined by Brande as "a fermented liquor, chiefly made of malt and hops;" and by Zell's Encyclopedia as "a fermented liquor * * * prepared from one of the cereals, as wheat, beans, peas, etc., but chiefly from barley, flavored with hops and other bitter ingredients." If we regard beer from the chemical stand-point, as a resultant of the conversion of starch into glucose and the splitting up of the latter into alcohol and carbonic acid, there is no reason why barley should be preferred to wheat, or rice, or maize, or any other starch-containing "substitute"; nay, we must seek below the surface for a reason why glucose *per se*, already made from starch, should not be used by the brewer, instead of waiting for the slow production thereof from the grain. No one who is at all informed on the subject will for a moment suppose that glucose is in itself unwholesome, and numerous experiments made a few years ago by Professor Remsen demonstrated that the commercial article, as manufactured in America (usually from maize), is free from any deleterious ingredients. In the Second Report of the N. Y. State Board of Health, Dr. Pitt describes the processes employed in this industry, which then consumed in three factories as much as 18,200 bushels of corn per diem, and admits that "physiologically considered, glucose, pure and uncontaminated with other compounds, is certainly a good and wholesome food." The only objection to its use in brewing appears to be that the beer thus produced contains a less percentage of phosphates and albuminoids; not that it injures the qualities of the beverages in other respects, for the brewers who confess its admixture with their malt aver that it is used solely to improve the flavor for critical palates, and deny that it is cheaper than barley. But in the first place, we should rid ourselves of the ridiculous pretence that beer is to be judged by the infinitesmal amount of nutriment which it contains, and frankly avow that if it have any attraction for us, it is simply as a pleasant drink. The man who does not obtain his quantum of albuminoid and phosphatic pabulum from other dietic sources would soon fall into physical and mental inanition on an exclusive course of beer. And, in the second place, the variations in these elements in beers, which, according to Englehardt's analyses are respectively from barley alone, or "apparently glucose," are so trifling that no significance can attach to them; and, moreover, their proportions differ widely in different grades of malt beverages quite irrespective of their reputation for healthfulness. Thus, the sample of ale marked No. 2 on the published list, with 7.340 per cent. of "extractive" and 0.066 per cent. of phosphoric acid, is indicted as sophisticated with glucose, while No. 40, with 5.285 of extractive and 0.06714 of phosphoric acid, is declared innocent; No. 19, with 5.497 extractive and 0.080 phosphoric acid, is regarded as "questionable," and No. 285, with 4.745 extractive and 0.8356 phosphoric acid, is pronounced free from substitutes for barley. As concerns the proportion of phosphoric acid to ash, No. 282, with 0.272 of ash, and 0.0760 phosphoric acid, is affirmed to be pure, and No. 288, with precisely the same amount of ash, and 0.0786 of phosphoric acid, is deemed "doubtful," the percentage of extractive being less in the latter. Again, among beverages which are approved as free from substitutes, the percentages of extractives range from 1.294 to 9.547; of ash, from 0.0976 to 0.4676; of phosphoric acid, from 0.287 to 0.1661; and of alcohol, from 0.8029 to 8.994. It is true that the minima in these respects pertain to the so-called "Weiss" beers, but it is also true that these latter are vaunted by many educated and estimable people as far less unwholesome than their fuller bodied congeners. The respective maxima and minima of such constituents, according to Konig, as quoted by Englehardt in an earlier report to the State Board of Health, are: Alcohol, from 1.63 to 9.04; extractive matter, from 2.60 to 12.40; ash, from 0.140 to 0.480; phosphoric acid, from 0.020 to 0.090; and these refer to beers proper, in the German sense. Hitherto, suspicion of the admixture of glucose has usually been based upon the discovery of a large amount of alcohol in proportion to the extractive matter; in Dr. Englehardt's list, however, this consideration does not seem to obtain, for one sample, with 3.748 of alcohol to 7.262 of extractive, is noted as "apparently glucose;" another with 0.677 of alcohol to 4.262 of extractive, has the affirmative "yes" in the column of remarks; a third, with 3.059 of alcohol to 8.153 of extractive, "to a great extent;" while specimens with 7.091 of alcohol to 4.087 of extractive, 5.739 of alcohol to 3.199 of extractive, and 7.494 of alcohol to 3.620 of extractive, are set down as having no substitutes for barley malt.

In relation to the addition of bicarbonate of soda, to the possibly deleterious effects of which Dr. Bartley, of Brooklyn, called attention some months since, it is worthy of remark that no excess of carbonates was detected in any of the samples collected by the State Board, although the quantitative results of analysis are not given, nor the permissible standard mentioned. In any event, forasmuch as according to Dr. Bartley's estimate the consumer would have to imbibe about thirty glasses of beer per diem to ingest an injurious dose of the salt, more moderate worshippers at the shrine of Gambrinus are hardly in imminent peril, and it may be questioned whether thirty glasses of beer a day would not disturb the average digestion to such an extent that the incidental accompaniment of even more than three drachms of the bicarbonate would be a minor consideration.

If we agree that the nutritive properties of beer are inconsiderable in a discussion of its wholesomeness, then the fact that barley contains a slightly greater quantity of proteids and phosphoric acid than other grains may be overlooked, and it is difficult to dissent from the conclusions of the German Brewers' Association, that rice, maize, and sugars made from starch are permissible substitutes for a portion, at all events, of the barley malt; nor can many of us contradict their assertion that the addition of rice produces a better flavored beverage. In this country, it appears that many brewers hold maize to be a still better substitute. Be this as it may, it seems certainly impossible to condemn the use of any of the substances thus far mentioned on sanitary grounds, and the matter remains chiefly one of taste on the part of the consumer.

The same remark applies to substitutes for hops, at least to those which are at all likely to be met with in real life; for of the numerous bitter articles catalogued in special monographs on the subject, the vast majority are never nowadays, if they ever have been, seen in the inside of a brewery, and most would be dearer than hops in its scarcest season. Quassia and gentian appear to have been occasionally used, and hops may be sometimes treated with wormwood; but ordinarily, as in all the samples examined by Mr. Englehardt, there is no ground to suspect the substitution of any other bitter.

It is not, perhaps, generally known that the addition of hops to malt drinks is a comparatively modern innovation. The ale of the original Britons was made from either barley, wheat, oats, or millet, malted and infused in water without the use of any bitter flavoring, and within the memory of living men hops were prohibited ingredients; indeed, even now the shadowy distinction between ale and beer in Great Britain is based upon the smaller amount of hops in the former. The introduction of hops was first intended to prevent the tendency of beer to become acid, a quality which, before bi-carbonate of soda was employed, it was advised to neutralize by adding a drachm of powdered chalk to each pint [Encycl. Brit. 3d. Ed.]. The popular fondness for "bitter beer" seems, therefore, to have been an acquired taste, and the cheapness of hops probably afforded the principal if not the only reason for the choice. As regards the sedative and tonic properties of this plant, of which we hear so much from the hop-growers and their legislative representatives, most physicians, if they considered lupulin as of much therapeutic value, would prefer to prescribe it in larger doses and in a different form than in beer; and quassia is an even better preservative and more decided tonic, as is also gentian, which has to many palates a still more agreeable flavor.

Beer's stronger brother, whiskey, was, and is yet supposed to be, distilled exclusively from barley in Ireland and Scotland; but in America maize and rye have almost entirely supplanted the former grain, and the majority of our compatriots prefer the native to the imported liquor, no one having so far advocated the passage of a law specifying the particular raw material to be used in its production, or the limitation of the name to the barley alcohol.

The real question at issue concerning beer is one which can scarcely be solved by chemical analysis, and depends largely upon the care and skill exercised in the process of brewing, In this respect most, if not all, of the leading breweries follow advanced scientific methods and employ approved apparatus, and the only practical distinction among their products seems to be between "present use" and "lager," the latter, as its name denotes, implying storage until properly ripened. In the absence of any statutory definition of "normality," Mr. Englehardt recommends that "lager beer have an age of at least eight to twelve weeks," though many exacting connoisseurs would extend this limit to six months. On the whole, as far as the breweries of this State are concerned, the consumer of beer may apparently possess his soul in peace. What adulterations may be perpetrated by retailers, in the way of "doctoring" stale beer, or sophisticating their beverages to increase the bibulous propensities of their customers, it was beyond the means of the State Board to investigate.

THE PRESENT WHOLESALE DESTRUCTION OF BIRD LIFE IN THE UNITED STATES.—The Committee on Protection of Birds of the American Ornithologists' Union have issued a timely bulletin (No. 1), which it would be well if our people would take seriously to heart. Man's destructive influence on bird life, while to some extent unavoidable, it declares with much force, to be in far greater part selfish and wanton. The decrease in our song and shore birds is already attracting attention, and the protest against it which is coming from many and widely distant parts of the country is not only painful evidence of this decrease, but gives hope that the wave of destruction, which of late years has moved on in ever-increasing volume, has at last reached its limit of extension, and that its recession will be rapid and permanent. But to secure this result, it is rightly claimed, the friends of the birds—the public at large—must be thoroughly aroused as to the magnitude of the evil, and enlightened as to its causes and the means for its retrenchment. It is therefore the purpose of the present series of papers to throw some light upon the extent, the purposes, and the methods of the existing wholesale slaughter of our native birds.

Birds are killed for food, for "sport," for natural history specimens, to stuff as objects of curiosity or ornament, and for personal decoration. In addition to the birds commonly recognized as game birds, many song-birds are hunted for food, notably the reed-bird or bobolink, the robin, the meadow lark, the blackbird, and the flicker, and in some localities all the larger song-birds. This is particularly the case in portions of the South, where strings of small birds may be seen suspended in the game-stalls. In March of last year a well-known ornithologist reports finding in the market at Norfolk, Va., hundreds of woodpeckers and song-birds exposed for sale as food, the list of species including not only robins, meadow larks, and blackbirds, but many kinds of sparrows and thrushes, and even warblers, vireos, and wax-wings.

The eggs of many species of terns, gulls, plovers, and other marsh and shore-breeding species, are systematically taken for use as food, the egg-hunting business being prosecuted to such an extent as to prove a serious cause of decrease of the species thus persecuted. Bird-nest robbing, says the Bulletin, is one of the besetting sins—one of the marks of "natural depravity"—of the average small boy, who fails to appreciate the cruelty of systematically robbing every nest within reach, and of stoning those that are otherwise inaccessible. To him the birds themselves, too, are also a fair target for a stone, a sling, a catapult, or a "pea-shooter"; to the latter many a sparrow, a thrush, or warbler falls a victim.

Having passed in review all the other agencies and objects affecting the decrease of our birds, it goes on to speak of the most important of all—many times exceeding all the others together—the most heartless and the least defensible, namely, the sacrifice of birds to fashion, for hat ornamentation and personal decoration. "Startling as this assertion may seem," it says, "its demonstration is easy. In this country of 50,000,000 inhabitants, half, or 25,000,000, may be said to belong to what some one has forcibly termed the 'dead-bird wearing gender,' of whom at least 10,000,000 are not only of the bird-wearing age, but, judging from what we see on our streets, in public assemblies and public conveyances, also of bird-wearing proclivities. Different individuals of this class vary greatly in their ideas of style and quantity in the way of what constitutes a proper decoration for that part of the person the Indian delights to ornament with plumes of various kinds of wild fowl. Some are content with a single bird, if a large one, mounted nearly entire; others prefer several small ones—a group of three or four to half a dozen, or the heads and wings of even a greater number. Others, still, will content themselves with a few wings fancifully dyed and bespangled, or a wreath of grebe 'fur,' usually dyed, and not unfrequently set off with egret-plumes. In the average, however, there must be an incongruous assemblage made up of parts of various birds, or several entire birds, representing at least a number of individuals. But let us say that these 10,000,000 bird-wearers have but a single bird each, that these birds may be 'made over' so as to do service for more than a single season, and still what an annual sacrifice of bird life is entailed! Can it be placed at less than 5,000,000?—ten times more than the number of specimens extant in all our scientific collections, private and public together, and probably a thousand times greater than the annual destruction of birds (including also eggs) for scientific purposes! Fortunately, perhaps, the supply of bird-skins for decorative purposes is not all drawn from a single country, the whole world being laid under tribute. The ornithologist recognizes in the heterogeneous groups of birds on women's hats, met with on every hand, a great preponderance of North American species; but with them are many of the common birds of Europe, and a far greater variety from South America, and many from Africa, Australia, New Guinea, and India. But, on the other hand, it is well known that our own birds are exported in immense numbers to Europe; but whether the exportation exceeds the importation it is impossible to determine, from lack of proper statistics. With the foregoing facts before us in regard to the annual destruction of our birds, it is no longer surprising that many species, and even genera of birds, are fast disappearing from our midst. Considering that this slaughter has been waged for years, but with rapid increase year by year, is it not rather a wonder that so many birds are still left?"

Mr. F. M. Chapman has sent to *Forest and Stream* a long list of native birds seen on hats worn by ladies in the streets of New York, which was chiefly the result of two late afternoon walks through the up-town shopping districts. Out of 720 hats counted in a single afternoon, 542 were decorated (?) with feathers of some kind. Of the 158 remaining, 72 were worn by young or middle-aged ladies, and 86 by ladies in mourning or elderly ladies. A gentleman recently observed that eleven out of thirteen women in a Madison Avenue horse-car in this city wore birds.

It is stated that in England there are already two societies organized expressly in aid of the preservation of birds "in Great Britain and all other parts of the world." The Selbourne Society, originated by George Arthur

Musgrave, of London, appeals to Englishwomen "to forswear the present fashion of wearing foreign or English bird-skins. Our countrywomen are asked to inaugurate a return to a mode which, though half forgotten now, is assuredly more becoming to the wearer than trophies of robins and sandpipers." Lady Mount Temple is not only a member of the plumage section of the Selbourne Society, but has written a vigorous protest against the fashion of wearing of dead birds on dresses, bonnets, and hats. The section is under the patronage of Her Royal Highness the Princess Christian, of Schleswig-Holstein, and numbers among its membership twenty ladies of title, and also Lord Tennyson, Robert Browning, Sir Frederick Leighton, and Rev. F. O. Morris.

In order to give an opportunity here for definite and systematic effort by all those who believe that our birds ought to be protected, the *Forest and Stream* has recently founded the Audubon Society. Membership in this Society is to be free to every one who is willing to assist in forwarding any one of the three objects for which it is established. These objects are to prevent so far as possible (1) the killing of any wild bird not used for food; (2) the destruction of the nests or eggs of any wild bird; and (3) the wearing of feathers as ornaments. The work to be done by the Audubon Society is auxiliary to that which is being done by the American Ornithologists' Union Committee, and will consist largely of matters of detail to which this Committee could not attend. The management of the Society, for the present, will be in the hands of a member of this Committee, and branches will be established all over the country. The American Ornithologists' Union Committee was recently organized in New York City with the following membership: Mr. George B. Sennett, *Chairman;* Mr. Eugene P. Bicknell, *Secretary;* Mr. William Dutcher, *Treasurer;* Mr. J. A. Allen, Dr. J. B. Holder, Dr. George Bird Grinnell, and Mr. L. S. Foster, all of New York City; Mr. William Brewster, Cambridge, Mass.: Mr. Montague Chamberlain, St. John, N. B., Col. N. S. Goss, Topeka, Kan. The Committee is desirous of collecting facts and statistics bearing upon the subject of destruction of our birds, and will welcome information from any source. It also extends the promise of its hearty co-operation to all persons or societies who may be interested in the protection of birds. The headquarters of the Committee are at the American Museum of Natural History, Central Park, New York City, where the officers or any of the members may be addressed.

In this connection it may be noted that Professor Bickmore prefaced the last lecture in the spring course before the teachers of this city, at the American Museum of Natural History, with a plea for the birds which are falling a prey to fashion, and told the ladies that there were sufficient means of ornamentation without robbing the woods and groves of their beautiful songsters. The Professor said he had been asked to express his opinion of this subject, and he was glad to express it emphatically for the birds.

Finally, it is worthy of attention that in his new work, "Signs and Seasons," that most delightful of living writers of "out of door" books, Mr. John Burroughs, addresses words of good advice to the women who thoughtlessly decorated themselves in this way; declaring that it is a barbarous taste that craves such ornamentation. "Think," he says, "of a woman or girl of real refinement appearing upon the street with her headgear adorned with the scalps of our songsters."

Since the foregoing was written, Dr. F. W. Langdon, of Cincinnati, has delivered an address before the Society of Natural History, of that city, in which he took the view that the existence of the song birds of North America is not seriously threatened by the present death-rate among them. Summing up the practical influence of bird-wearing upon our fauna, he called attention to the following points: "*First*—That the North American birds used in greatest numbers are gulls, terns, herons, and others, not song birds, nor species beneficial to the agriculturists.

"*Second*—That our most desirable and familiar song birds, such as thrushes, wrens, greenlets, and finches, are in limited demand, on account of their generally plain colors.

"*Third*—That of the brilliantly plumaged birds a vast majority come from South America and other foreign countries.

"*Fourth*—That probably enough of shrikes, jays, crows and other predatory species are destroyed to more than compensate for the few song birds actually killed by man for all purposes.

"*Fifth*—If all were song birds and equally beneficial the reduction in numbers from this cause would be inappreciable in its effects on the fauna of the country at large.

"'But,' it may be asked, 'must our civilization eventually cause a birdless country?' Not by any means; on the contrary, we shall find if we study the comparative abundance of birds in general, in most civilized sections of our country, that birds are probably more numerous both in species and in individuals, than they were in the earlier days of its settlement."

But, whether Dr. Langdon is right or not, it cannot be doubted that there is at the present time a great deal of unnecessary and wanton destruction of bird-life, in this, as well as other countries, and the efforts of those who are endeavoring to lessen the amount of this are, therefore, deserving of all praise.

THE PROPOSED CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS. —In the report of the recent meeting of the American Surgical Association, in the June number of the JOURNAL, mention was made of the fact that a committee of five was appointed whose members were authorized to confer with committees of the various other associations asked to unite in the general congress proposed by Dr. Mastin, of Mobile, and report at the next meeting of the association. It is gratifying to learn that the plan, which appears to be a most admirable one, has everywhere been received with marked favor, and that all of the associations interested which have held meetings since that of the Surgical Association, viz.: the Climatological, the Laryngological, and the Clinical and Pathological, have appointed conference committees in regard to the matter

The originator, Dr. Mastin, expressly disclaims any intention of offering any obstacle or opposition to any other association in America, proposing, simply, a plan of uniting into one great body the already existing Special Societies, from the honest conviction that such a union will prove of inestimable benefit to them, individually and collectively. The outlines of the contemplated organization, it will be remembered, are as follows: The Congress to be composed of the Special Societies when in Convention, and its meetings to be held annually in the City of Washington. The constitution and by-laws of the Congress to be formed by a committee composed of a like number chosen from each separate society. The opening session of each annual session to be devoted to such general business as may pertain to the interest of the associations as a whole. The Congress to be presided over by a President elected annually, and who must deliver the opening address upon the first day of the session. The manner of choosing the President to be as follows: by a nominating committee composed of one fellow or member elected from each special association or otherwise, as may be determined upon by the special society itself; this committee nominating one or more candidatesfor the office of President, whose election is to be by ballot on the last day of the annual session, and in a convention of all the societies assembled. The Presidents of the Special Societies to become, *ex-officio*, Vice-Presidents of the Congress. Membership in the Congress to be acquired only by virtue of fellowship in one or another of the Special Associations. Other officers of the Congress to be elected or appointed as may hereafter be determined upon by the associations in convention.

While certain modifications may perhaps be deemed advisable, there can be little doubt, from present indications, that the general plan will be unanimously adopted; and when such a union has once been formed, it seems altogether likely that the practical results will prove satisfactory. The only objection of weight that seems likely to be urged against it is the possibility of the proceedings of the proposed Congress detracting to some extent from the scientific interest of the annual meeting of the American Medical Association.

THE RECENT MEETING OF THE FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION was very successful, and also a most delightful one socially on account of the excursion to the Catskills, which a large part of those in attendance availed themselves of the opportunity of enjoying. A considerable number of ladies accompanied them, and the whole affair was managed in the most admirable manner; so that all who were prevented from going lost indeed a rare treat. The time allowed for the scientific session in Kingston was too short for the completion of the programme arranged, and an interesting additional meeting was held at the Hotel Kaaterskill in the evening. One attractive feature of the latter was a medico-historical sketch of the ancient town of Kingston, by Dr. Van Hoevenberg, which will appear in the August number of the JOURNAL; and it is to be hoped that at the future meetings of the Branch more papers of this character will be presented. Nearly all the places along the Hudson are rich in historical associations, and no doubt many facts regarding the past, of special interest to the profession, might thus be elicited. The meeting at Yonkers in March last, when the session was held in the ancient Philipse Manor House, one of the oldest and most noted colonial buildings now standing in the country, would have seemed a peculiarly appropriate occasion for something of this sort.

Before adjourning, a vote of thanks was tendered both the hospitable proprietor and manager of the great hotel, and it was certainly a well deserved acknowledgment of the most earnest endeavors on their part to make the sojourn of all the company a pleasant one.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLIII. NEW YORK, AUGUST, 1886. No. 2.

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ORIGINAL ARTICLES.

ARTICLE I.

THE PROGRESS OF MODERN MEDICINE. An Address Delivered at the Annual Meeting of the Orleans Parish Medical Society, April 5, 1886, by F. FORMENTO, M.D., New Orleans, Annual Orator.

Mr. President and Gentlemen:

On such occasions as this, the address of the Annual Orator should dwell upon subjects that may interest not only members of our profession, but likewise the general public. I know of none more likely to do so than the study of the "Progress of Modern Medicine."

In this paper I propose to survey the field which the science of medicine has gone over during the last fifty years, and to take, so to speak, an inventory of our stock in knowledge and resources at the present day.

This study cannot fail to further increase the public respect and consideration our profession is justly entitled to, and, at the same time, whilst recording for the physician the great achievements of the past, stimulate him to new efforts, to new enterprise in the interest of science and suffering humanity.

Great, indeed, has been the progress accomplished of late in medicine, and we may with legitimate pride point to our record. This progress is, in a great measure, the natural consequence of the extraordinary advancement made in the physical and chemical sciences—these collateral branches of medicine.

Every day chemistry furnishes us with precise methods and new discoveries, and places at our command the isolated active principles of drugs, those numerous and precious alkaloids which have been so well designated by Burgraeve, "veritables armes de précision de la medecine contemporaine."

Mechanics and physics offer us new and valuable resources, incessantly inventing and improving instruments, apparatus, and physical appliances of all sorts. The improvements made in optics, acoustics, and electricity have given us the means of seeing and hearing the very depths of organs. Microscopy, with its wonderful instruments, has revealed to us new fields of observation, new worlds of infinitesimal beings, the discovery of which has revolutionized the whole structure of medical science.

How could such extraordinary progress in the collateral branches take place without advancing and perfecting medicine and surgery? without inculcating to those sciences a character of positivism, a spirit of experimental research, which is the real source and origin of its great scientific development? Nowadays pure abstraction, theory, and speculation of the mind have disappeared from the study of medical science and given way to direct experimentation and observation of facts. We observe and study a fact, and explain it, when it is possible to do so, by the positive laws of anatomy, physiology, and pathology. When no plausible explanation can be given, we acknowledge our ignorance, reserving satisfactory interpretation of the phenomenon to future progress and advancement. We are no longer satisfied, nor the public either, with high-sounding and hollow technical words, which were often used simply as a cloak to our ignorance. A spirit of practical observation, of positivism—the spirit of the day—now reigns supreme in the study of medicine, which, like all other sciences, has been invaded and permeated by it. Such is the cause and explanation of all the great discoveries made of late in the science of medicine.

The mass of newly established physiological facts, and the application to the healing art of recent discoveries made in chemistry and allied sciences, have increased so rapidly that it becomes difficult to make a proper selection among them. In fact, there is such abundance of material to select from that one runs great risk of overlooking many important facts. We shall endeavor to present here at least the principal ones.

ANÆSTHESIA.

The most useful and wonderful of modern discoveries in medicine is, beyond question, that of anæsthesia. This discovery, by itself, would be sufficient to illustrate and immortalize the profession of medicine. It certainly marks an era of true progress and real advancement in science. No greater blessing has ever been conferred upon humanity than the adoption of those marvellous anæsthetic agents which have conquered and abolished pain, relieved surgical operations of all their horrors, rendered parturition no more a curse and punishment according to the Biblical idea, but an easy physiological function, as natural, as painless as digestion or respiration.

In the whole domain of human knowledge can there be found a more useful, a more admirable discovery? Does it not rank among the marvels of science? Is not this faculty given to man, of abolishing pain, an almost superhuman attribute? Does it not establish some sort of affinity between the physician and the Creator?

It was in 1846, and in our own country, as you know, that this great discovery of anæsthesia took place. On September 1 of that memorable year, there occurred in Boston, between Drs. Jackson, a distinguished chemist, and Morton, a dentist, a consultation which was to decide the fate of anæsthesia. Morton had come to Jackson to inquire whether he could suggest some means of preventing pain in the case of a delicate, timid female upon whom he was to operate the following morning. Jackson had, for the four previous years, been experimenting on sulphuric ether, and had verified its anæsthetic properties upon himself and others. He suggested to Morton to try it, by inhalation, on his patient, and as the dentist seemed not to know what sulphuric ether was, he presented him with a small bottle of it.

The following day—September 2, 1846 (forty years ago)—teeth were extracted for the first time, without pain, under the influence of sulphuric ether. The first person so etherized was named Helen Frost. This name should pass to posterity.

According to Dr. Marion Sims, it was Dr. Crawford Long of [illegible] (see his work on the discovery of anæsthesia) who [illegible] operation under ether. In either case, the glory of [illegible] certainly belongs to America.

One month later, on October 14, Dr. [illegible] Hospital of Boston, an operation for the [illegible] under the influence of ether. From [illegible] ations was well established and be[illegible]

We should not forget, in co[illegible] Jackson and Morton's experi[illegible] attempted to use protoxide of azote as an anæsthetic in surgery, but had failed in their first experiments. It was then that Jackson began his experiments with sulphuric ether. In December, 1846, the first surgical operations under etherization were performed in France and England. Jobert de Lamballe was the first to operate in Paris, on December 22. In February, 1847, Sedillot proposed chlorhydric ether in preference to sulphuric, and the following month Flourens addressed the Académie des Sciences on the comparative value of both ethers, and recommended in their place, as the best anæsthetic, a chemical compound discovered almost simultaneously, as far back as 1830, by Liebig and Soubeiran.

This new agent, which presented some analogy with chlorhydric ether, was *chloroform*. Simpson, of Edinburgh, was the first to use it in surgery, and establish chloroformization on a solid basis. This new, rapid, and powerful anæsthetic was soon to overthrow ether, and from that day, on all sides, were being proclaimed the blessings of anæsthesia. We should here remark that the first suicide by inhalation of ether was that of Horace Wells, who had been among the first to experiment on the exhilarating gas (protoxide of azote). He probably committed suicide in a moment of jealousy and despondency. Morton died from congestion of brain, produced by worry, and Jackson is—or was last year—in an insane asylum. Sad, indeed, has been the fate of the first experimenters of anæsthesia.

Contrary opinion notwithstanding, chloroform remains to this day the most reliable, most powerful and, I should say, least dangerous of all anæsthetic agents. In several thousand cases in which I have administered it myself, or seen it administered, in surgical and obstetrical practice, I have never known a single accident to result from its use. And yet how often, during our late war, have I seen it administered under the worst possible conditions! The drug itself, often impure, given by incompetent persons to soldiers half famished, broken down, exhausted from fatigue, hardship, and privation!

Dr. Simpson, of Edinburgh, administered it over ten thousand times, without a single fatal result.

Dr. Samson, of London, says: "Chloroform has been used in obstetric practice in over fifty thousand cases (at that time), and without one fatal result." The number of cases in which it has since been used without accident can no longer be counted.

Dr. Wellford, of the Confederate Army, reports that in thirty thousand administrations of chloroform, during the late war, not a single accident has occurred! As to sulphuric ether, which is still used in preference to chloroform in many Northern cities, accidents under its use are said to be less frequent than with chloroform! So you see that, in either case, these accidents amount to very little.

OTHER ANÆSTHETICS.

Encouraged by the success of chloroform and ether, and still searching new means of relieving pain and its nervous manifestations, therapeutics has seen its efforts in that direction crowned with renewed success. Among its recent conquests, which have rendered most positive service to suffering humanity, can be counted hypodermic injections of morphia, the use of chloral hydrate, introduced in practice by Liebreich, the use of bromide of potassium, which substance in many cases has mastered epilepsy, that most terrible of nervous affections, and, finally, the wonderful local anæsthetic now so much in vogue, cocaine.

The discovery of each and every one of those remedial agents marked a new progress in therapeutics. We shall say a few words of cocaine.

COCAINE.

The stimulating and tonic properties of coca were known to the ancient Peruvians for ever so long. It was a plant sacred to the Incas, who recognized in it almost miraculous properties. About twenty-eight years ago it was for the first time introduced in therapeutics, and recommended as a general tonic. Niemann was the one who first extracted from coca leaves a crystallized alkaloid, which he called cocaine. Later on another active principle, hygrine, was discovered by Losser. It was as recently as the year 1884 that Koller, from Vienna, discovered the extraordinary anæsthetic property of cocaine on the mucous membrane of the eye. This discovery created at first some incredulity, but very soon the truly anæsthetic qualities of this new agent were confirmed, and became well established all over Europe. Previous to Koller's discovery, it seems that the sedative action of cocaine in affections of the larynx had been ascertained by Fauvel and others.

Cocaine may be said to be the anæsthetic of all mucous surfaces. A four per cent. solution of chlorohydrate of cocaine applied to a mucous membrane produces in the space of five to ten minutes complete insensibility, which lasts from one to two hours. The same result is obtained by hypodermic injections. It extends to a very limited circumference of skin around the puncture, which can be pierced with a needle or a knife without causing the least pain. This complete anæsthesia of skin lasts about twenty minutes, and then gradually disappears. These phenomena are produced by injecting a few drops of a two-per-cent solution.

These wonderful anæsthetic properties on all mucous membranes, and on the skin when injected hypodermically, find their application in numerous cases occurring daily in practice; among which we may mention operations on the eyes, opening of abscesses, removal of small cystic tumors, operation for phymosis, catheterism, tracheotomy, examination with the laryngoscope, and the treatment of burns, excoriation of nipples, affections of the ear, ulcerations of the pharynx, epiglottis, and larynx, anal fissure, vaginismus, etc.

So far cocaine is the only local anæsthetic for all mucous membranes. Its hypodermic injections are sometimes followed by serious general symptoms, such as syncope, loss of senses, and imperceptible pulse, which phenomena seem to be due to cerebral anemia, from the action of cocaine on the vaso-motor nerves.

Hence great prudence is required in its mode of administration. Of late we have all read of terrible consequences, both physically and mentally, resulting from the excessive use of this powerful agent.

HYPODERMIC METHOD.

It was about thirty years ago that Dr. Wood, of England, introduced the practice of hypodermic injections of morphia. It has since become general all over the world, and in spite of the numerous abuses which have resulted from it, producing at times a perfect morphiomania scarcely less injurious than alcoholismus itself, that method has rendered immense service in the hands of the careful physician. With it relief is certain, pain is mastered. But it does more than this. By allaying irritation, by suspending organic action, by controlling the circulation, by securing absolute rest and quiet, it becomes in many cases, such as peritonitis, penetrating wounds of chest and abdomen, etc., the only means of saving life. Nowadays the hypodermic method is extended to a number of medicinal substances, and is justly considered the true scientific method of introducing into the circulation active therapeutical agents in all their purity. It is the method followed in the study of inoculation and attenuation of viruses.

HYDRATE OF CHLORAL.

Among the most remarkable newly discovered hypnotics we should mention hydrate of chloral and paraldehyde. We are all acquainted with the properties of chloral, which, since its introduction in 1869 by Liebreich, has become of such universal use in medicine. One of the theories explaining its hypnotic action is that, after its introduction into the circulation, it decomposes itself into formic acid and chloroform. Many observers reject this explanation on account of the rapid action of the drug when injected under the skin of an animal; its presumed decomposition could not take place so promptly, and, besides, it gives rise to a quantity of chloriform insufficient to produce the instantaneous anæsthesia which is at times noticed. These observers believe in a direct action of chloral in substance on the elements of the nervous centres. Chloral could scarcely be administered hypodermically on account of its irritant properties. It should always be well diluted and given in milk in preference, whether administered by the mouth or injected in the rectum. Like other narcotics, it seems to act better by the rectum. In acute pyresiæ, with congestion of the brain, in alcoholismus, in certain forms of pneumonia, chloral is far superior to opium, as it diminishes, instead of increasing, the circulation in the brain.

Vivisections and experiments recently made by Hammond and others on patients who had lost parts of their skull from injuries or syphilitic necrosis, have confirmed practically the theory generally admitted by physiologists, that sleep is the result of diminution of cerebral circulation, of a certain physiological and intermittent cerebral anemia. All substances capable of diminishing and retarding circulation in the brain will act as hypnotics.

PARALDEHYDE

was introduced in therapeutics, in 1833, by Cervello, Morselli, and other Italian physicians. It is derived from ethytic alcohol. Its formula is $C^6 H^{12} O^3$. Pure paraldehyde is a solid crystallized body which melts above 10° Centigrade; it has a disagreeable odor, somewhat resembling the strong breath of drunkards. It is extremely volatile. Injected under the skin of a dog in the proportion of gramme 1·60 for every kilogramme in weight of the animal, it produces complete anæsthesia and kills very promptly; in smaller doses it gives rise to a rapid and deep ivresse (state of drunkenness), preceded by most pleasant sensations. It seems to act successively on the brain, spinal cord, and bulb. The sleep it induces is generally calm, though sometimes excited and disturbed, like that of drunkenness. It is less irritant than chloral, and better tolerated by the stomach. In nervous insomnia, in restlessness produced by alcohol, in different cerebral affections, particularly in convulsive forms, in many cases of insanity, it is much superior to chloral in its quieting and restorative effects. It has been recommended in morphiomania and in poisoning by strychnine. Paraldehyde is very soluble in alcohol and water. It can be given by the stomach, or perhaps still better by the rectum. It is generally administered in that way, and with good results, in many forms of mental alienation. The usual dose is from two to three grammes. It has also been given hypodermically at the dose of five to ten grains. But its introduction under the skin is very painful and often produces abscesses.

ANTISEPSIS.

Next to the discovery of anæsthesia, there is perhaps no discovery that has created such a commotion in the scientific world and led to such revolution in practice as that of the germ or microbian origin of disease. This discovery has naturally given rise to what is known as the antiseptic method, consisting in the destruction of those germs, which by itself would illustrate modern surgery. As this question of microbes now absorbs the attention of the whole world, you will pardon me for dwelling for a while on this subject.

The extraordinary progress recently made in microscopy could alone have led to the discovery of those infinitesimal bodies, the smallest in creation, called microbes. The word "microbe" signifies a "minute living body," and does not pretend to determine the nature of that body, whether it belongs to the animal or vegetable kingdom, which question has given rise to considerable discussion among scientific men. It was first used by Sedillot, in 1878, during an animated debate at the "Académie des Sciences" of Paris, and has since been approved and adopted by Pasteur, Littré, and *savants* of all countries. In order to study satisfactorily the form and structure of those infinitesimal beings, microscopes possessing a fifteen hundred power are required.

Microbes play a most important part in organic life, both animal and vegetable. They are to be found everywhere. In certain plants—like the vine, for instance—not less than one hundred different species have been found.

Some microbes perform certain useful missions in nature, for instance, those which, finding their elements of development in the products of organic putrefaction, reduce complex elements to their simplest forms, thereby facilitating the return to the soil of mineral substances formerly existing in animal bodies, and which may again be made use of for the development of plants. In this admirable, everlasting, circle of decomposition and new creation there is nothing lost, but simple metamorphosis of organic life. The phenomenon of fermentation which gives rise to such useful results in industry and domestic economy is nowadays recognized to be due to special microbes called ferments. This is observed in the making of bread, wine, beer, vinegar, etc. In contrast with those useful physiological microbes, there exist in nature myriads of microbes which only produce evil results, as far as we know. It is a microbe which causes the disease of the grape in many parts of Europe, that of the silk-worm, which produces fermentation and decomposition of many alimentary substances and others used in industry. Finally, it is a well-established fact nowadays that a great many maladies in men and animals are produced by living germs or microbes. These float in the air we breathe, in the food we eat, in the water we drink, and thus penetrate, by the lungs, skin, and stomach, into the most remote organs of our system. One sees of what immense interest the study of microbes is to medicine not only, but to sanitary science, agriculture, manufacture, and industry. We are forced to deal with them in a thousand manners. These infinitesimal beings have very properly been called, "the invisible toilers of life and death."

Pasteur has created a revolution in medicine by demonstrating that virulent diseases are due to a *living* contagion, to the presence in the blood of characteristic microbes for each and every disease. The *microbes* of all contagious and infectious diseases have not yet been physically demonstrated, but the study of those microbes, which are now positively known to be the efficient cause and origin of certain diseases, with the results obtained by Pasteur and his followers in the attenuation of viruses by proper culture of these microbes, has reached such a point of perfection as to fully warrant the opinion, now generally admitted, that all diseases capable of being transmitted, whether by direct contagion or atmospheric infection, are caused by a living germ or microbe. The microbian origin of charbon, chicken cholera, hydrophobia, morne, silk-worm disease; of Asiatic cholera, tuberculosis, purulent ophthalmia, and other affections in man, is now recognized by all. Further investigations, more perfect methods in microscopy and microbe culture, will reveal hereafter the actual presence of living germs in all virulent and contagious affections. They have already been found in diphtheria, small-pox, scarlatina, measles, pneumonia, swamp fevers, and, according to recent and apparently reliable accounts, in yellow fever. Pasteur, by his discoveries and precise methods, has opened new horizons to therapeutics and shown the road it should hereafter follow. He has not only discovered and demonstrated the living microbe of certain diseases, but, what is still more wonderful, by his precise scientific methods of germ culture he has been able to gradually attenuate the virulent properties of those germs to such a point as to render them not only innocent, but prophylactics: *true vaccines*, as he calls them.

One of the most agreeable remembrances of my life is that memorable *séance* of the Fourth International Congress of Hygiene, held in Geneva, on September 5, 1882, over which I had the honor to preside as vice-president. On that day Pasteur, for the first time, exposed minutely the different processes followed by him in order to obtain gradual attenuation of certain viruses to the point of rendering them prophylactic. This result is obtained by submitting the microbe to a special culture in special veicula, and is mainly due to the influence of oxygen. Pasteur conclusively proved that "a virus originating in a microbe can be attenuated in its virulence without undergoing marked changes in its general morphology, that it can retain this virulence in special culture, and produce new germs. These, in their new form, can transmit a temporary disease which acts as a protector against the fatal disease caused by said virus in its unmodified natural state."

In regard to Pasteur's late discovery and researches on the prophylactic attenuation of the hydrophobic virus, the observation of several hundreds of cases, in which persons inoculated with the protective virus, after having been bitten by rabid dogs, have not developed the disease, seem so far to confirm and realize the most sanguine expectations of the scientific world. If time and further observation corroborate these facts, we will have witnessed in our days one of the most extraordinary and useful discoveries of the age.

A scientific method so exact and precise in all its details as that of Pasteur cannot fail to produce, in the course of time, wonderful practical results in medicine. The day will perhaps come when the thorough study of the different microbes of disease will enable science to utilize certain of their antagonistic properties in the treatment of diseases, *id est*, to modify or destroy some of these micro-organisms by the introduction into the blood of other microbes inimical to them. In surgery the microbian doctrine has already led to extraordinary results. It has given birth to the so-called antiseptic method, for which we are particularly indebted to Lister, and which is based upon the knowledge that the specific infectious properties of disease are due to the presence of living germs or microbes. . . . This naturally led to the researches and discovery of agents capable of destroying those germs.

The study of those agents is already well advanced; being based upon direct experimentation, its results may be accepted as positively correct.

The principal antiseptics used in therapeutics are, first, carbolic acid, in two to five per cent. solution, which, ever since 1867, has been adopted by Lister in his antiseptic surgery; second, the solution of chlorinated soda, five to twenty per cent., an excellent disinfector, greatly in vogue formerly, and nowadays perhaps too much neglected; and, finally, the powerful germicide and antiseptic now so much in vogue, the mercuric chloride solution, 1 to 1,000 to 1 to 4,000.

The most active of disinfectant gases so far seems to be sulphurous acid. In the proportion of twenty grammes per cubic metre, sulphur in combustion can destroy all micro-organisms contained in a liquid, and at forty grammes those same micro-organisms will be in a dessicated state.

The antiseptic method comprises thorough cleansing and disinfecting of the operator's hands, of the patient, of the operating room, disinfection of the air, instruments, sponges, ligatures, of everything that touches the wound, complete toilette of the cavity, exact re-union and seclusion of the wound, etc. This method has produced wonderful changes in the practice of surgery within the last twenty years. Imagine the surprise of the great operators of the beginning of this century, of Roux, Dupuytren, Liston, Cooper, Lisfranc, etc., were they to witness a surgical operation performed according to the now prevailing system under anæsthesia and antiseptics! With these two great discoveries of our days surgery has truly achieved wonders. Without them, would the surgeon be bold enough to open the abdomen cavity and perform ovariotomy, gastrotomy, ablation of kidneys and uterus, removal of cancerous portions of stomach, or injured intestines? Would he ever have thought of searching for a bleeding artery or a strangulated bowel in the mass of the intestinal coil? All those cases were formerly invariably and absolutely fatal. . . . Nowadays a great many are saved, and all these abdominal operations are not only justifiable, but recognized, accepted, and demanded in the light of progressive modern surgery.

Corresponding advances in all branches of medicine have naturally had their share in the success of modern surgical operations which anæsthesia and antiseptics have rendered possible. Our new hospitals are built and conducted according to all the requirements of hygiene, properly lighted, ventilated, and disinfected; the *régimes* and general treatment of sick and wounded have been greatly improved; and our surgical instruments and appliances are far superior to those formerly in use. Absorbable aseptic ligatures have taken the place of coarse, unclean, putrescible threads, which acted in the wound like foreign bodies. We can now apply an indefinite number of stitches in order to bring together corresponding tissues and secure accurately cutaneous flaps. By so doing, by strict compliance with every detail of the antiseptic method, we now obtain re-unions by first intention, which were formerly considered impossible. In many modern hospitals suppuration after surgical operations is now considered as a sign of bad surgery, as a failure. Together with suppuration, erysipelas and septicemia have also almost entirely disappeared. Under the proper use of antiseptics, not only many new operations have been rendered possible, but the general mortality after all capital operations has been greatly reduced.

The same satisfactory results have been obtained in all branches of surgery, particularly in gynæcology, which owes so much of its recent remarkable advancement to the talent, skill and ingenuity of American surgeons. What immense progress, what a complete revolution introduced into this important department of Medicine! The introduction in practice of Sims' speculum, the use of silver ligatures, the new operative procedures for vesico-vaginal fistule, and laceration of the cervix and perineum, the use of hot water and mild applications, instead of the former universal caustics, all mark, each and every one of them, its own brilliant page in the advancement of Science.

As to the modern progress of obstetrics, compare the mortality in the old Maternités of Europe and America with that of the present day in our new institutions, conducted in accordance with the requirements of modern science.

The reduction of the death rate, both for women and children, the diminution of suffering, the improved condition of patients on leaving the hospital, compared to their often shattered condition of former years, would by itself mark an immense progress in Medicine, and entitle it to the gratitude and admiration of all.

But the discovery of disinfectants, or, more properly speaking, *germicides*, has not only accomplished wonderful results in practice; it has also produced a revolution in another branch of Medicine—in sanitary science. It has greatly improved quarantine systems, rendering them more efficient and at the same time less oppressive, reconciling as far as reasonably possible the protection of public health with the just exigencies of commerce. We now possess powerful means of preventing the introduction in our midst of foreign pestilence, by destroying completely the germs of the disease at its point of entrance, and of restraining the extension of infectious diseases that may develop within our borders.

We have seen that, thanks to the generalization of the antiseptic method in surgery, we nowadays perform operations which, a few years ago, would have been considered as impossible, while the man bold enough to think of performing them would have been looked upon as a madman or a murderer. Among the most extraordinary operations of the last few years are those which have been performed on the stomach and other organs contained in the abdominal cavity. Only a few years ago the peritoneum, as you know, was considered as an impassable barrier, beyond which no surgical hand had penetrated. Nowadays we recognize no such barrier. We open the abdominal cavity, we open the stomach and remove foreign bodies from its cavity, and successfully, too, as in the case of " l'homme à la fourchette" of Dr. Labbe. More than this, has not Dr. Loreta, of Bologna, opened the walls of the stomach in order to dilate with the finger the pyloric or cardiac orifice in cases of constriction of the same by disease or injury?

Have not Billroth, Peán, and others performed gastrectomy (excision of the stomach) to remove parts of the organ affected with carcinoma, or other degeneration? The difficulty, in those cases, does not reside so much in the difficulty of the operative procedure as in the difficulty of a precise diagnosis, as to the extent of the disease. In strictures of the œsophagus an opening has been made through the abdominal walls, and a stomach fistula established in order to support life by proper food introduced through that opening. In a case in which the lesion was at the pyloric orifice Billroth performed an extraordinary operation. He established a direct communication between the stomach and the superior extremity of the small intestines, thereby permitting the passage of food from the stomach directly to the intestines, retaining the secretion of bile and pancreatic fluid, which continued to take place! All these operations, which to our fathers would have appeared real feats of temerity, are not yet fully recognized as legitimate by the profession; but the time may come, and will probably come, when they will be looked upon as justifiable, as warrantable as those operations of ovariotomy and laparotomy which only a few years ago met with such opposition.

Of late there has been introduced in practice, a method of treatment for certain affections of the stomach, which has given excellent results; I have used it myself with perfect satisfaction. I refer to the washing out of the stomach and its local dressing, so as to say, by means of the stomach syphon, which permits the introduction of simple hot water, or medicinal solutions of different kinds, such as those containing bicarbonate of soda, or sulphate of soda, boric acid, charbon de Bellocq, subnitrate of bismuth, and in some cases of hemorrhagic ulcers, solution of per-sulphate, or per-chloride of iron.

The stomach syphon is also used to introduce nutritive substances in certain forms of dyspepsia, or starvation, and it may perhaps be proper to refer in this connection to the great improvement made in the preparation of such substances as the peptonized *pulvis carnis*, which can be mixed with milk, cacao, etc.

Among recent applications to the stomach we should not forget the different applications of electricity to its cavity, as recommended by Semmola, of Naples, and other Italian physicians in certain gastro-intestinal affections. It has been used with success in incoercible vomiting and intestinal occlusion.

ANTITHERMICS.

Among the most recent valuable resources of therapeutics, we should not omit to mention the different antithermic agents, or substances having the property of reducing the temperature in fever. Some of these agents seem to have a direct action on the central nervous system, others to modify the composition of the blood. Fever is essentially characterized by an acceleration of the heart beatings and increase of animal heat. It corresponds to an increased general organic combustion, and may be due to some sort of fermentation in which micro-organisms probably play an important part. This theory is supported by the fact that most anti-ferments are possessed of febrifuge, or antithermic properties. In some cases, the principal indication—at times of vital importance—is to reduce the temperature, which, by itself, independently of its cause, if continued any length of time, is capable of producing most serious disorders. To use an expression of Bouchut, "The house is on fire, we must extinguish it."

These substances cannot always be considered as curative agents, but often act as auxiliary, for, in some cases, even after the temperature has been reduced, the disease follows its ordinary course, and does not always have a favorable termination, in spite of this reduction of heat, as in typhoid fever, infectious pneumonia, etc. Reducing the temperature in this case does not necessarily modify or effect its course. The same remark can be applied to the German treatment of typhoid fever and pneumonia by cold baths, as well as the same method not long ago (1868) attempted in yellow fever. We all know that it did not give the expected result.

In all infectious diseases the real danger exists not so much in hypothermia or increased heat, as in the specific poisoning of the blood by micro-organisms. This poisoning causes serious lesions of the heart, liver, kidneys, etc., which have been attributed by some of the German school entirely to exaggerated heat.

But in spite of this, hypothermia by itself constitutes a real danger, by the disintegration it causes in the blood corpuscles, and agents capable of reducing high temperature, whatever be its cause, are certainly of the greatest importance, and extremely useful in the treatment of disease; most of these newly discovered antithermic agents are derived from the very same family of coaltar products which have furnished us with some of our most powerful antiseptics, such as carbolic acid. The principal antithermic agents are rosorcine, kairine, thalline, and, finally, antipyrine, which so far is the most reliable, most efficacious, and least dangerous of all.

Antipyrine was discovered by Ludovic Knor, of Munich, and first experimented upon by Dr. Filehne, of Erlangen; it has been patented in Germany. Its exact chemical denomination has not yet been given, nor is its chemical composition well-known. It is derived from oxymethyl quinizine, which substance is obtained by the reaction of acetic ether upon phenil hydrozine or aniline. Like all preparations of phenols and oxyphenols, it possesses strong antifermentative properties. It has the appearance of crystalline whitish, or grayish powder, is very soluble in water, and has a bitter taste. It can be administered by the mouth, rectum, or in hyperdermic injections.

Two grammes (½ drachm) of antipyrine in a man, will, in the course of half an hour, reduce the temperature one to two degrees; repeated every four hours, until six or eight grammes are taken, it will produce a diminution of temperature, which may last from twenty-four to forty-eight hours. I have myself, only a few days ago, been able to reduce a temperature of 104° to 101° in the space of two hours, by the administration of ten grains of antipyrine.

It has a special action in the hectic fever of phthisis pulmonalis, in which disease it renders real service. It is sufficient, according to Huchart's method, to give from a half to one gramme (10 to 20 grs.)a day, or even every other day, to avoid profuse perspiration, which adds to the patient's weakness. It possesses hæmostatic properties, which may, at times, be utilized in the same affection.

In spite of newly discovered agents, sulphate of quinine remains the febrifuge and antithermic par excellence. It is the only real anti-periodic we possess, and also a powerful means of reducing high temperature in continued fever pneumonia. It possesses, furthermore, anti-septic or anti-fermentative properties, which renders it a precious remedy in diphtheria, septicæmia and other infectious diseases.

We physicians, practising in this malarial region, well know that if there be in the whole materia medica an agent upon which we can rely, one which finds its application in a thousand different cases, and without which the practice of medicine would become impossible, that agent is sulphate of quinine.

The discovery of the bacillus of phthisis pulmonalis, by Koch, has necessarily led to considerable modification in the treatment of that disease. Long before that discovery, Villemin, Corradi and others had asserted the virulent contagious and inoculable properties of phthisis. There still remained some doubt and uncertainty on that subject, until Koch demonstrated the microbe of phthisis, in 1882. Nowadays, the majority of physicians believe that the bacillus tuberculosis constitutes the agent of transmission of the disease, and as the principal veiculum of this transmission is the air we breathe, it is natural to believe that disinfection of the same by proper means—which we perhaps do not yet possess—would be the most rational curative and prophylactic method. The lungs, as we know, are the most direct and available channel of transmission to the whole system, for infectious as well as medicinal principles. According to Professor Germain Sée, there is a double indication to carry out in the treatment of phthisis bacillosis, first, to oppose by proper medicinal agents the development of the bacilli, and, second, to modify by proper hygiene the soil, or organism in which these bacilli find their elements of culture.

The agents most likely to fulfill the first indication are those which act locally by pulmonary inhalation, and those which, after being absorbed, are eliminated by the lungs. Among the former are to be mentioned phenic acid, iodine, iodoform, bichloride of mercury, fluorhydric acid, etc. In addition to the general modifiers of nutrition of daily use, above them, we may say, we should call into requisition all the resources of hygiene, particularly pure air, proper, and in some cases, forced alimentation, and the sojourn in high altitudes. It has been demonstrated that beyond a certain altitude (3000 metres) the air contains no micro-organisms, or very few, which fact explains scientifically the complete absence of phthisis on very high mountains. In Germany they have gone so far in the microbian treatment of phthisis as to inject bichloride of mercury in the very parenchyma of the lungs. Experimentation has been too limited to give any positive results.

The question of the microbian origin and germicide treatment of phthisis is yet in its infancy. But it is not unreasonable to hope that, in the future, either by the discovery of some special germicide of the bacillus, or by proper attenuation of the micro-organisms of phthisis, that terrible disease, that scourge of the human race, a thousand times more fatal than all the pestilential epidemics put together, will cease to desolate, as it does now, every country of the universe. Then, indeed, will medicine have truly accomplished a wonderful, almost divine work.

I could here speak of several other new therapeutical agents introduced in practice. It might also be proper to notice the extraordinary progress made in pharmacy, the simplification of formulæ, the diminution of doses—due perhaps to homœopathy—the improvements in the preparation of drugs which are now administered in the most elegant and palatable forms, pleasing to the eye, and, who would have believed it? agreeable to the taste. What would our fathers, accustomed to horrid decoctions, black draughts, and nauseating powders, say, if they could see and try our elegant medicinal bonbons, chocolate pastilles and syrups?

Let us stop here and throw a glance backwards at the progress of medicine, in all its branches, in the last fifty years. When at mid-day he has reached the top of the mountain, the traveller may well be permitted to pause and measure the strides he has made since the morning in the valley. Anæsthesia, antisepsis, here are in two words the most salient and marvellous discoveries of the present generation, and our title of glory! Pasteur, Koch, Jackson, Simpson, Lister, have immortalized themselves, their epoch, and their science! Surgery has leaped forward and ranks to-day as one of the progressive and aggressive sciences. Who can predict the development of to-morrow? Who will dare say that medicine has not advanced since the day of Molière? That sarcastic wit himself would no longer be able to exercise his satire against medicine. He would laugh no longer at the physician. Can croakers any longer point the finger of scorn to the science which makes a study of the human body, in health and in disease?

Remarkable as have been the discoveries of the exact sciences, of natural philosophy, chemistry, etc., in the present century, the progress of medicine and surgery has fully equalled them.

In the light of our recent marvels, the physician may well exclaim in the language of the famous French Minister:

"Quo non ascendam?"

ARTICLE II.

MEDICO-HISTORICAL SKETCH OF KINGSTON, ULSTER COUNTY, NEW YORK.*

By H. VAN HOEVENBERG, M.D., of Kingston.

Mr. President, and Fellows of the Association:

When Hendrick Hudson, after his voyage up the Hudson River in 1609, returned to Holland and gave his report of the discoveries he had made, the ambition of many of the Dutch people was aroused, and preparations were soon made for taking advantage of the opportunities afforded by the new country. Many Hollanders crossed the ocean and settled on Manhattan Island, and in that vicinity, but some penetrated further into the wilderness, and settlements were made at Kingston, then called Esopus, and at Albany. These settlements flourished, and when in 1613 an English vessel came to Manhattan, that place was found to be so strong that it was left unmolested. Esopus continued to prosper, and in addition to agriculture, did a large trade with the Indians, with whom the inhabitants seemed to have lived in peace and friendship. In 1620 all the Hudson River colonies were included in the Dutch West India Company's incorporation. The Dutch, as a people, were of strong religious convictions, and churches were established in the different settlements as they gradually extended back from the river. The records of births, marriages, and deaths, as kept by the different churches are, to this day, the most reliable and valuable records of the genealogy of the families of Ulster County. Although generally living on friendly terms with the Indians, we find occasional mention of acts of hostility, but nothing of any extent until 1663, when, owing to the influence of the French, the Indians assumed a hostile attitude, and an attack was made on the settlement of Wiltwyck (now Kingston). Although a surprise, the people succeeded in repelling the attack, but only after the massacre of over one hundred of the inhabitants of New-Dorp (now Hurley), a small settlement three miles west of Wiltwyck, besides the loss of a number of captives. In 1664 the settlements along the Hudson River passed into the control of the English; the names of the settlements were changed, and Wiltwyck became Kingston. The County of Ulster was organized in 1683, and included the present Counties of Ulster, Delaware and Sullivan, together with parts of Greene and Orange. Up to this time the form of government was copied after the cities and villages of Holland. Judges were chosen, who were to be "honest, intelligent persons, possessing real estate, peaceable men, good subjects to their Lords and Patrons, and the high administration appointed by them; professors of the Reformed Religion, as it is now preached in the United Netherlands, in conformity to the Word of God and the orders of the Synod of Dordrecht." Soon after the change of government, the colony received accessions to its strength; at first principally Scotch and Welsh, but later on Irish. These nationalities intermarrying with the Dutch, produced a hardy, practical race, whose influence is felt to this day. The County of Ulster increased in strength and importance, so that at the opening of the Revolution it ranked third in population in the colony. The population of Kingston at that time was about twenty-five hundred. Being centrally located, it had been selected as the meeting place of the colonial legislature. When the Provincial Convention, which had been obliged to leave New-York by the arrival of the British army, were considering the advisability of removing to Kingston, in 1776, its committee informed it that "fifty members may obtain good accommodations at the rate of twenty shillings per week," and that the Court-House contained a room suitable for the meetings of the Convention. Here the Convention assembled on March 6, 1776, and immediately proceeded to adopt a form of Government for the State. A committee was appointed for that purpose on March 12. After transacting other business, and discussing the several sections of the new Constitution, the whole plan was finally read through on April 20, and adopted, with but one dissenting vote, that of Col. Peter R. Livingston, who asked to be recorded as voting in the negative. The draft of the Constitution was in the handwriting of John Jay. A resolution was adopted that the Constitution should be published at the Court-House, on the following Tuesday, April 22, at 11 o'clock, A. M., and, at that hour, the bells of the Dutch Church, Academy and Court-House were rung, to call the people together; and there, standing on a barrel, surrounded by the members of the Convention, the Secretary of that body, Robert Berrian, read the first Constitution of the State of New-York to the people. The most important business before the Convention having been finished, the trial of a number of Tories was taken up, and two of them were hung. Up to a year ago a large oak tree, standing just on the western edge of the village, was known as the "Tory's oak," and was said to be the tree on which a number of Tories were hung during the Revolution. The house at that time occupied by Judge Wyncoop is now standing on Green Street, and, with the exception of one at Stone Ridge, ten miles from here, is the only one in this County where it is positively known that General Washington stayed. On July 9, an election was held, and George Clinton, a native of Ulster County, was elected Governor and Lieutenant-Governor. He was notified of the result, and asked to make arrangements to come to Kingston as soon as convenient and take the oath of office if he chose to accept; and on the fourteenth an answer was received, accepting the office of Governor. On July 30, General Clinton appeared before the Council of Safety, to whom had been delegated the charge of affairs after the adjournment of the Convention, and took the oath of office, and at 6 o'clock, P. M., of the same day he was proclaimed Governor by the Sheriff of the County. He was re-elected Governor in 1783, and again in '86, '89, '92 and 1801. In 1805 he was elected Vice-President, re-elected in 1808, and died in Washington, April 20, 1812. He distinguished himself during the Revolution, not only by his acts as Governor of the State, but by his active military career.. His statue now stands in one of the two places in the Capitol at Washington, allotted to each State, for memorials of its most distinguished citizens. Among the persons present at the inauguration of Governor Clinton, was Dr. Luke Kiersted, who at that time was a very prominent man in the community, and is the only physician whose name I have been able to find mentioned in any of the records of that time. The result of the action of the Convention, at Kingston, and the proclamation of Clinton as Governor, was, that the British sent a detachment of about 1,600 men under Gen. Vaughn, who landed at the mouth of the Rondout Creek, and marched up to Kingston, where they immediately proceeded to plunder and burn the houses and barns of the inhabitants. Most of the able-bodied men of the place were with the Continental army in the Highlands, and so there was no force to offer resistance to the barbarous purpose of the British. True, a body of men had been detached from the Continental army and sent north to protect Kingston, but they did not arrive until the work of destruction was nearly completed. The loss was very great, as the crops had been gathered into the barns and in stock for the winter supply, and everything was destroyed. Only one house was left standing, and that may still be seen on Wall Street, and probably presents nearly, if not quite, the same appearance that it did in 1776. There are many old stone houses still standing, which were rebuilt after the burning; the walls, being of stone, and very thick, withstood the action of the fire, and in the course of time were restored to their former condition. I will not weary you with a more extended account of our beautiful, and may I not say, ancient city. I regret that circumstances were such that we could not hold our meeting in that part of the city, where the events spoken of occurred. Had we been able to do so, you might have had an opportunity to go over the older portion of the place, and note the points of historical interest. There is how standing, on the corner of Fair Street and Maiden Lane, the house, built in 1723, in which the Committee which framed the Constitution, met, and on the corner of North Front Street and Clinton Avenue stands the house in which the first Senate of the State of New York held its meetings.

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*Read before the New York State Medical Association, Fifth District Branch, June 15, 1886.

The data for a history of the medical profession in Ulster County are very meagre, consisting only of such facts as can be gleaned from the records of the County Medical Society, which was organized July 1, 1806, with Drs. James Oliver, President, Luke Kiersted, Vice-President, Benjamin R. Bevier, Secretary, and James Houghtaling, Treasurer. In looking over the records, I find that, even in those days, the profession was troubled with quacks, even as we are now, and one of the first things the Society did, was to take action concerning a number of illegal practitioners. There were only fifteen physicians present at the organization, but their numbers increased rapidly. At the annual meeting in 1807 it was reported that there were forty-seven physicians practicing in the County, though all were not members of the Society. At that time the dues were 50 cents per year. At the annual meeting, it was "moved and carried that the Society choose a subject for debate at the next meeting, for the better improvement of the Society," and that the President appoint some one to open the debate. Accordingly, "Fever" was the subject chosen, and Dr. Samuel H. Phillips was appointed. I find that, as Dr. Phillips did not appear at two subsequent meetings, he was fined $5. Possibly this might be a good procedure in some of the societies of the present day. Many of the physicians of that time have descendants who are practicing medicine to-day, and in some few families one or more of the sons have followed in the footsteps of their fathers. The meetings of the Society were at first held as often as once in three months, but after a few years they gradually dwindled down to the annual meeting, and from 1837 to1858 no meetings were held. In 1858, fifteen physicians met together and revived the old society, and since that time they have been held regularly. The profession in Ulster County has always stood well with the people at large. There are inscribed on its roll the names of some who have been men of marked ability, men who, with the opportunities which would have been afforded by residence in some of the larger cities, would have risen to high positions in the ranks of their chosen profession; but they were content to live the life of usefulness that opened before them, doing all the good they could to those around them; often at the cost of hardships and sacrifices; many times getting little if any pay, and sometimes more curses than thanks, as their reward.

ARTICLE III.

CASE OF RESECTION OF THE WRIST FOR GUNSHOT INJURY. By W. F. GILLIM, Livermore, Ky.

On February 18, 1885, I was called in haste to see Mr. A. H., a white man, age 38, by occupation a farmer. On arriving at the house I learned that while out bird hunting in the morning, he had stopped to converse with a neighbor, and, while thus engaged, rested the butt of his fowling-piece upon a log which lay conveniently near, holding the barrel loosely in his right hand. While in this position the gun slipped off the log and through his hand, and in falling was discharged. The whole contents, shot, leather wads, and unexploded powder, passed through the right wrist from the ulnar side, just missing the end of that bone, shattering the carpal bones and tearing away and completely destroying the soft parts on the dorsal aspect of the wrist, for a space of at least one and one-half inches. All the tendons of the extensor group of muscles were cut and torn apart, and at first sight amputation seemed to be imperatively demanded.

My friend, Dr. W. P. Ellis, saw the case with me, and, after a thorough examination and consultation, we agreed to endeavor to save the hand. The residence of the patient was five miles away in the country, and the weather being very disagreeable and the roads bad, we urged upon the family the necessity of his removal to a more convenient place, where he could be seen as often as necessary.

Therefore, with his consent, we put up the wounded limb in a temporary dressing, and had him removed to my house. There, eight hours after the accident, and with the patient under the influence of an anæsthetic, I performed the operation we had decided upon, as follows:

I removed the shattered remains of all the carpal bones, and trimmed away all the shagged integument, muscular tissue, and tendons down to the tendons of the flexor muscles and the radial and ulnar arteries, neither of which had been injured. The hemorrhage was not so great as one would expect from the extent of the wound, being principally from the carpal branches of the posterior interosseous artery, and was easily arrested by tortion. None of the larger arteries on the anterior aspect of the joint were injured. I then brought the cut surfaces, which were separated at least an inch and a half, together, and secured them in that position with silver sutures and adhesive straps. The wound was then dressed with carbolized oil, and the hand and arm, as high as the elbow, placed in a tin case. Our idea, of course, was, in operating as we did, to secure if possible a serviceable hand, and should we find subsequently that there was no rational hope of saving the hand, or any part of it, we would still have amputation as a *dernier ressort*, with prospects of as favorable results as would have followed primary amputation. Notwithstanding the great nervous shock consequent upon such an injury in a person of the patient's temperament, the case did remarkably well, being watched very closely, and the wound being kept cleansed with carbolized oil. The sutures were removed on the seventh day. There was considerable sloughing, owing to the powder-burn, but the patient's strength was maintained by nourishing food and tonics. He began to improve by the end of the second week, the wound becoming healthy and the temperature nearly normal. He slept well without the aid of anodynes. At the end of the fourth week, although perfect cleanliness had been observed and ample provisions made for drainage, symptoms of septicæmia began to develop; which were successfully combated with quinia, stimulants, etc. On the thirty-second day he was sufficiently recovered to permit his return to his home, the wound being at this time very nearly healed. Passive motion of the fingers had been carefully practiced from the third day, and this he was ordered to continue daily, the splint to remain in use for some days longer and careful attention being paid to cleanliness. Saw him once a week, after his return home, for three weeks. At the end of that time the splint was discarded; by the latter part of May he had begun to use the hand to some extent, and by the middle of June the wound was entirely healed. At this writing (December, 1885) he has very good use of the hand, writes quite well, and does ordinary farm work almost as well as before the accident.

I have been prompted to report this case because of the rarity of resection or excision of the wrist, compared to the frequency with which the operation has been performed upon other joints, and because I wish to add my mite to the statistics of an operation which has been attended by such poor success in the past. I do not remember of ever reading of a case *exactly* similar to the one I have reported, and certainly none had previously to this one occurred in my practice or fallen under my observation.

It is true that Otis, Culbertson, the younger Gross, and others have performed excision of the wrist for disease a number of times, with a death-rate of about fourteen per cent.; yet when done for the repair of an injury the results have not been so encouraging, especially when we take into consideration the fact that the hand is usually rendered stiff and almost useless. Surgeons have not yet settled the question as to which is more destructive to the mobility of the hand, partial or complete resections; but the scanty statistics available at this time seem to indicate that partial resections may be safely resorted to whenever there is a reasonable hope of securing a useful hand, and the condition of the parts render such a procedure preferable to amputation. The statistics of gunshot-wounds of the wrist are very meagre, and the whole literature of the subject is scanty. In my case all the carpal bones were removed, and the result far exceeded my most sanguine expectations.

My thanks are due Dr. Ellis for his very efficient assistance and counsel during the conduct of the case.

ARTICLE IV.

A CASE OF INTUSSUSCEPTION, WITH SLOUGHING AND DISCHARGE OF A LARGE PIECE OF INTESTINE, FOLLOWED BY RECOVERY.* By J. G. PORTEOUS, M.D., Poughkeepsie, N. Y., President of the New York State Medical Association, Fifth District Branch.

B——, a school-boy thirteen years of age, while suffering, in May, 1885, from a severe attack of diarrhœa, was suddenly seized with severe pain in abdomen, vomiting, and entire cessation of the diarrhœa, although there was a constant desire to go to stool and severe tenesmus.

I found him a few hours after with the abdomen swollen and tender, and the indications of a tumor to the left of the umbilicus. Having made the diagnosis of intussusception, I injected two quarts of warm water through a rectal tube, and this was followed by a small dejection, accompanied with some blood. The tumor then disappeared, and the vomiting soon stopped. Next I gave a spoonful of castor oil with ten minims of laudanum, which was followed by a free evacuation and entire relief. The boy remained weak through the summer, with a tendency to pain and soreness of the bowels.

On the 15th of May last, after violent exertion in playing baseball, he was taken with severe vomiting and moderate pain in the abdomen. On the 16th a cathartic was given, which increased the pain but did not cause a movement. On the 17th some small powders of morphine and bismuth were given, which partly controlled the vomiting and pain. An injection of a pint and a half of warm water produced no effect.

May 18. Abdomen swollen and tympanitic. No distinct tumor, but some tumefaction, with a feeling of hardness to the left of the umbilicus. I gave two large injections, and after the second there was a moderate passage. I then gave oil and laudanum, which was followed by several copious evacuations, with some blood. The vomiting ceased, but some pain and soreness remained. After that the bowels moved naturally every day until the 28th. On the 29th the patient had a convulsion, and after an enema of a pint of water there was a moderate evacuation, which was accompanied by the piece of *intestine* now presented. He required some assistance in passing the last half.

The boy is now doing well. He has a good appetite, and his bowels are regular; and with the exception of a slight tenderness in the left side of the abdomen, he makes no complaint. The piece of intestine measures a little over seven inches in length.

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* Read, with presentation of specimen, at a special meeting of the New York State Medical Association, Fifth District Branch, held June 15, 1886.

ARTICLE V.

THE BEST DOCTOR FOR THE COMMONWEALTH; OR, THE DOCTOR AS AN OFFICER OF THE STATE.*

By J. P. THOMAS, M.D., Pembroke, Ky.

GENTLEMEN OF THE MEDICAL SOCIETY OF THE STATE OF KENTUCKY:—At your last meeting, through your partiality, you selected me from among many more worthy to fill this chair; a compliment unexpected and undeserved, conscious as I am of my own demerits and the greater claims of others to this—the highest honor in your gift. Yet permit me to assure you of my high appreciation of your kind and generous recognition of any small claims I may possess in your estimation by virtue of my devotion to the interests, or any humble effort to contribute my mite to the general objects of the Society; in return for which I can only tender you my grateful thanks.

The Kentucky State Medical Society, now in its thirty-first annual session, has, with unabated zeal and constant love for its chosen work, withstood the many professional bickerings, jealousies and dissensions, both from within and without, as well as the frequent introduction of politics, no matter how hurtful or undesirable, that seems an inevitable concomitant of all organized bodies. An association, the annual meetings of which have been uninterrupted, except for a few omissions caused by national and State troubles incident to a civil war unequalled in magnitude by any predecessor throughout the world.

This Society has already accomplished much for medicine in this Commonwealth, and with the *united* effort of her members, aided by the general profession, is destined in the near future to raise legitimate medicine to the high position it ought to occupy, but unfortunately does not at present. A Society that in the past has had for her presiding officers many of the best medical minds that this age has produced. An organization that has constantly aimed to elevate the medical profession, to contribute its quota to the advancement of medicine as a science, to encourage medical ethics, promote professional sociability, and by its rules and precepts elevate its members to the *highest position* attainable by man—that of a *Christian gentleman* and *accomplished physician*. Then, gentlemen, as a higher standard for legitimate medicine, the suppression of quackery in every form, and the progress of State medicine are, or should be, among the principal objects of all scientific medical bodies, and especially one such as I have outlined this to be, composed as it is of the majority of the best medical talent of the Commonwealth; therefore, any topic that may tend towards placing even one rung in the ladder by which such altitude for medicine may yet be attained, I hope will prove of sufficient interest to command your attention for a short time, no matter how imperfectly such topic may be presented. Consequently, with the hope of promoting these important objects, I have chosen as my theme—

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* Address of the President of the Medical Society of the State of Kentucky, at its Thirty-first Annual Meeting, held at Winchester, June 23, 24, 25, 1886.

"THE BEST DOCTOR FOR THE COMMONWEALTH; OR, THE DOCTOR AS AN OFFICER OF THE STATE."

This, of course, will necessitate extensive allusion to the much discussed subject, and almost "thread-bare" theme, "A Higher Medical Education," the discussion of which has thus far, produced but poor results in this State, but, I am gratified to say, grand ones in a few others. Alabama, Illinois, North Carolina, and Virginia have been gloriously rewarded in this respect, through the persistent efforts of their medical societies in this direction. But I don't wish to be understood that the curriculum of the coming doctor, as seems to be the prevailing idea in this age of scientific exploration, shall embrace science in general, or even as of old it was said, "to be great in medicine one must be familiar with all its collateral branches." The first condition is too broad a field for the cultivation and grasp of one mind, and life is too short; the second, though perhaps attainable and advantageous, is not necessary for the successful practice of medicine.

In this age when so-called science seems insatiable, the scientist is expected not only to explore the material universe by analyzing, as it were, the most infinitesimal animalcules, and distinguish in *propria natura* the most microscopic organisms, individually recognizing them by form and movement, their mode and rate of multiplication, special habitat and general agency in the production of disease, but is required to settle dogmatically the *rôle* that each individual species plays in lessening the longevity of man, and also designate the special disease that each variety of the innumerable list of bacteria, which is daily being enlarged through the revelations of the microscope, is capable of producing. But I would not demand that, besides this ponderous addition to his scientific studies, shall be required an accurate knowledge of the theory, or an intimate acquaintance with the doctrine, of evolution, either as taught by Darwin, which does not leave a pin-hole for the entrance of a Creator, or as promulgated by Haeckel, Helmholtz, and others, who convert force into God, or evolve a Creator from force alone, and are thus able to evolve man, with his bioplastic organization and brain power, not only, as does Darwin, from the simplest organism, but actually from unorganized matter. Nor would I require him to be an adept in psychological analysis, competent to analyze the spiritual by weighing the soul in the balance, and test spirits under the microscope, and thus show that mind is only a physical machine from which to evolve thought, simply by molecular motion.

Thus science is made to usurp the attributes of God, and consequently competent to explain each phenomenon in nature, and with only evolution, gradual development from nothing, and with the small aid of Darwin's truly great idea, "Natural selection and survival of the fittest," plan, construct, organize, and people worlds.

Though modern physiology correctly teaches, as far as matter is concerned, that life is the result of death, that every evolution of thought causes the death of a molecule of brain tissue, that force destroys but to again restore, etc., it does not teach, as does evolution, that because protoplasm, bioplasm, or cells are the builders of new and repairers of old tissue, or because with the force from behind they produce metamorphosis, and thus renewed vitality, that they constitute life, because they are still only protoplasm or cells, both as living or dead material, as they never leave the body at death.

Though clothed, as is honest and conscientious medicine, with the "God-given mantle of charity" and humanitarianism, and necessarily intimately connected with all the natural and experimental sciences, yet that it bears any relation to so-called evolution, modern spiritualism, "christian science," mind-reading and other similar absurdities, is beyond conception.

But that a careful study and proper application of Darwin's beautiful and ingenious idea of natural selection, as discussed by himself—who all must admit, was a deep thinker and close student of nature's laws—might prove beneficial to medicine as a science, in elucidation of certain diseases, and perhaps settle the question of heredity, or rather prevent its evil results by artificial selection in imitation of natural selection, and at least ameliorate some of its penalties, must be conceded.

Again, I would not compel or even advise the embryo doctor to waste his time in the study of the classics, but endeavor, before entering upon the study of medicine, to gain a good English education, supplemented with all the knowledge of the natural sciences possible, and especially the two most needful to the successful practitioner of medicine, chemistry and physiology; but as this has been so much better said, by that venerated Nestor of American medicine, Dr. Nathan S. Davis, I quote him, the man who has labored during his professional life for common-sense medicine, and for the welfare of the profession, but who has done still more recently with his pen and the great weight of his influence, to protect the honor and dignity of the profession of America against the assaults of a few truly able and distinguished men, men it is true, who have earned the gratitude of their profession by their works, but unfortunately whose egotism and a desire for leadership had over-reached the bounds of modesty, and caused them to proclaim themselves, by their acts, as the only medical lights on this continent. But, to return, Dr. Davis says: "That it should still be held almost at the close of this century, when the natural sciences are the great powers of the world, and after religion, the greatest power of modern civilization, when all ancient and classical learning has failed to stay one human pain or lift one ounce of human suffering, that the man who has not the usual routine academic education is unfit for the study of medicine is beyond conception. The whole success of the physician must depend upon the skill with which he can utilize the experimental sciences."

The absurdity of this dogma of the necessity of a classical education to the proper study of medicine, or its successful practice, is evident when we recall the brilliantly successful career, as able clinicians, of many of our most distinguished men, who, perhaps, never opened a Latin or Greek book.

Though an exact knowledge of the relations of medicine to science in general, or a classical education, is not necessary for the mental equipment of the most accomplished physician, yet we see so many annually entering the profession, merely to obtain a livelihood, without the most elementary English education or preparatory preparation, and often with only the most limited knowledge of the principles of medicine, with no talent or love for its study, and not the slightest ambition to excel or advance in their profession, that the question arises as to whether or not the principles of political economy, as promulgated by Malthus, are not thus being carried out, and that the present unrestricted license to practice medicine is one of the checks to the increase of population, that he in his day failed to include in his enumeration of the most powerful and effective checks to excess of population over production, because not then foreseen as even a probable factor? It is at least safe to say that had Malthus lived in this close of the 19th century, and entertained the same views as to the dangers to the poor from the increase of population over the means of subsistence, he would have put down the increase of quackery and over-supply of uneducated doctors as one of the most effective checks on increase of population.

Many seem to have but one idea as an incentive to enter the ranks of Medicine, "It is an easy way to make money." What a false conclusion, as all know who have followed it conscientiously? But this mistaken view of the life of the doctor is a growing factor in the production of many of the mushroom species.

The colleges are often censured and condemned for issuing diplomas to those unworthy to receive them; this is an erroneous view of the subject and does them gross injustice. There are no class of educators better qualified, as a rule, or who labor more earnestly and conscientiously to teach thoroughly their various branches in the short time *permitted* by law, than teachers of medicine; and after all that has been written of the advantages of European schools, there are none better equipped for teaching all the essentials of medicine than the first-class medical colleges of America. It is, however, a lamentable fact that the number of medical colleges in this country could be reduced to one in five and still be quite sufficient to supply all demands for medical education, and it is perhaps also true that the system of cramming, permitted by usage, on account of the competition among the schools, adds to the number annually graduated. But the main fault is to be found in the material sent the schools of which to make doctors; this, too often, is of the unprepared kind. Send them selected and fairly prepared material, and they will turn out a safer class of practitioners.

Then as the schools can't select their pupils, but must admit all who apply, by reason of their unnecessary number and consequent competition, the question confronts the profession, how can medicine be raised to its proper standard? or how can legitimate and scientific medicine be cleansed from the contamination of ignorance and charlatanism? Why may not physicians ask of their lawmakers statutes that will free their names and life work from association in the public mind with all that is disreputable and vile, because the impostors bear the title M. D.?

Many, in their opposition to legislative control of the practice of medicine, claim that only a limited class of physicians demand such legislation, and only for their own selfish interests; when every medical man who has ever appealed for such law has conclusively shown that the paramount object was the protection of the people. Dr. H. O. Marcy, in a very thoughtful address before the "Association of Medical Editors," says: "The fallacy of the arguments of nearly all who have opposed legislation is the unproved and unwarranted assumption that a certain limited class of physicians, stigmatized as "old school," allopaths, regulars, etc., are the only parties interested in securing such legislation. Nothing is further from the truth, and it is my own conviction that, aside from the desire which should actuate all honorable men to lessen, as far as possible, a recognized evil, and to elevate the profession, with the honor or shame of which they are indissolubly connected, few, if any, would be found to advocate legislation, except as a most disagreeable duty." Dr. Marcy, to prove it is not exclusively the "old school," quotes from the address of the President of the Homœopathic Medical Society of Massachusetts, Dr. J. H. Smith, as follows: "The profession, in general, and a few of the leading medical colleges, recognize that this country is overrun with swarms of incompetent practitioners. The more influential societies of America have united to raise the standard of medical education, and also of admission to professional studies. The day is approaching when, with justice, physicians may ask protection of the State of the special title of Doctor of Medicine from being dragged in the mire of ignorance and sloth; and no one can fairly object to the passage of a bill providing for the inspection of diplomas and a proper registration.

"Whenever this shall be accomplished they may properly be regarded as members of the public service, and, as such, a kind of board of health at large, having definite powers and entitled to adequate compensation in the courts, to exemption from jury and military service, and to protection against the assumption of their distinctive title M. D., by people without inspected and approved diplomas."

While aware of the difficulties in the way of legislative restrictions under a republican form of government, and while agreeing *in part* with Dr. Geo. Cowan, of Danville, Ky., when he says: "The matter of legislative control of the practice of medicine in this country has always appeared to me of doubtful value or expediency. The form of government is not suited to it; the people are sovereigns, and have not the intelligence or virtue requisite;" yet it is plain that proper laws regulating the practice of medicine can be passed and enforced, even under our government, just as legislative restrictions are placed upon other frauds for the protection of the people, without infringing upon their liberties. By giving them only an educated profession, they could without mistake, and with perfect freedom, select as to individual choice whomsoever they pleased as medical advisers. It is true, as Dr. Cowan says, as yet the people are not educated up to the point to intelligently select a qualified physician, because as yet the elementary or basic branches of Medicine, Chemistry, Physiology and Anatomy are not, as they should be and will be, taught as a part of the curriculum of all our schools and colleges.

But until this is the case, if the want of intelligence and virtue renders the people subject to imposition and danger to life through their inability to intelligently select a medical adviser, for this reason if there were no other, the State should protect its citizens from fraud and manslaughter, if not actual murder, by pains and penalties for the offenders. Therefore, if this is the difficulty in the way of legislative control of the practice of medicine, that the people are uneducated in medical matters, that they are really incompetent to select their medical attendants, that as a rule they know nothing of the necessary qualifications of a physician, that they can, and do, only judge of the fitness of the doctor by his success after trial, (so that, by this criterion, if he should prove incompetent, it is, of course, then too late to prevent the homicides of those who may have risked their lives in testing his qualifications); then legislative control is the more necessary, and even at the risk of infringement upon his liberties, it is the more incumbent upon our law-makers to protect the life of the citizen as far as law can do so. On general principles I also agree with Dr. Cowan as to the political character of the examining boards appointed to guard the entrance to the practice of medicine, as well as the health boards, if they are to continue as political appointments; but, from precedent, it is proven that the present mode of appointing such officers of the State may be legally altered, and the appointing power vested in a competent body outside of politics; and with the best results.

The power of appointing the boards of medical examiners and of health has been by legislative enactment vested in the State medical societies of three States, Alabama, Virginia, and North Carolina. Though the two latter have made a long stride in the right direction, and so far their law is working harmoniously, and for the best interest of their people, yet it is plain to all who have investigated them, that Alabama has decidedly the best law regulating the practice of medicine of any State in the American Union.

The Medical Association of Alabama is the accredited and legally authorized agent of the Commonwealth to regulate and govern all matters pertaining to the practice of medicine and the preservation of the public health within her borders; or, in other words, the medical society is the State Board of Medical Examiners and the State Board of Health. The exercise of these powers the State Association delegates to its board of censors, whose acts are subject to the supervision and correction of the Association. The county medical societies constitute the local boards of examiners and boards of health in their respective counties, each of which has a board of censors elected by the society to act as medical examiners and board of health, subject to the approval of the county society. The acts of all county societies and their board of censors are under the supervision of the State society.

The society publishes annually a volume of transactions containing the laws of the State governing the medical regulations, together with, not only the papers read before it, but their *discussion* in full, making a volume that would do credit to the American Medical Association, or any other body.

This, of course, is a mere outline of the medical regulations of the State; to enter into detail would be beyond the limits of any report short of a volume, but the careful reading of the Association's "Book of the Rules," its constitution, the law itself, and the reports of its harmonious working and satisfactory results, would repay every medical man in the Union who loves his profession sufficiently to desire its regeneration in ethics and educational relations, and its elevation to the position of dignity, influence, usefulness, and honor which it ought to occupy before the law and the bar of public opinion. Through the kindness of its retiring President, Dr. Benj. H. Riggs, and of its Secretary, Dr. T. A. Means, I have been favored with the last volume of its transactions, and other documents pertaining to the law regulating the practice of medicine in the State.

The volume contains Dr. Riggs' thoughtful and elaborate address covering almost all the ground on this vexed question, and which is worthy of all praise.

The "Omnibus Discussion" is a feature of this Association that is worth all the papers usually read before societies, and would add to the interest and instruction of their members; and just here I would recommend its introduction in the proceedings of this society. The example of Alabama is worthy of the imitation of all her sister States. But without at present suggesting any of the several ways by which the administration and execution of proper laws governing the practice of medicine, and protecting the public health, can be kept out of the arena of politics, and thereby their good results to the Commonwealth secured from the failures incident to political favoritism, it is apparent to all who have given the subject serious thought, that some State regulation of the practice of medicine is sadly needed, and should be urgently demanded of our lawmakers by *the entire profession of the State.*

We know that the national government is very strict in her regulations regarding the selection, examination and appointment of her medical officers. Why? Because she cannot afford to place incompetent medical men in charge of the health of her soldiers and sailors. Why not the same solicitude, as far as practicable, concerning the lives of her citizens? It is from their ranks she draws her army and navy.

Everyone is aware of the stringent rules governing railroad corporations, as to the education and training of their engineers. Why? Because human life is constantly dependent upon their skill. Why not as strict laws regarding the education and training of medical men and women, who are also the guardians of the lives of the people? We all know that the present law in this State is utterly useless and inoperative as to medical examining boards, and should be erased from the statutes. It appears to me that if our law-makers would carefully consider the wholly different attitude that the law in effect forces us as a profession to occupy towards the Commonwealth, from that of every other profession, trade, or calling, there would be no difficulty in procuring the passage of ample and effective laws guarding the entrance into the profession of only those properly prepared to assume its great responsibilities. We stand apart from other professions or trades in the fact the law makes us officers of the State.

We are required under penalty to give our professional opinion of all causes producing death, and our certificates of births, and often to decide the legitimacy or illegitimacy of presumptive heirs at law, and to give warning of the approach of disease of whatever character that may threaten the State or any of her communities As medical witnesses we are compelled to give professional evidence, perform post-mortems, and analyze the tissues in suspected cases of death by poisons. In jurisprudence we are expected to understand the science of forensic medicine, to be able to give an expert opinion as to the doubts of an asserted pregnancy or the existence of one denied, of infanticide, of the usual means of homicide, and any and all causes of sudden death, or death by violence, to be able to distinguish a murder from a suicide, in cases of death by hanging or drowning to decide whether life is extinct, or was at a certain moment, to explain the signs of sudden death from whatever cause, and to distinguish feigned from real disease. All these demands, and many others of a like character, to say nothing of insanity in its multitudinous phases, deciding the accountability, or the reverse, of its subjects, real or feigned, are constantly made upon the medical man as an officer of the State, and unjustly, be it said to the disgrace of the Commonwealth, without professional compensation. In addition, he is expected to be conversant with medical police sanitation, or State medicine. Especially is this a requirement in this era of advanced sanitary science, where the increasing appreciation of its good results is evident to every thoughtful mind. Though such requirements and onerous and responsible duties are required of the profession as officers of the State, this is not only without pecuniary compensation, but without encouragement by laws protecting its honor and dignity as a learned profession. This is obviously unjust, and as a profession we should unite in demanding protection of the State from the evils that beset us.

The only way to secure the aggrandizement of the profession is by the co-operation and zeal of its members; whatever the doctors unitedly want they can get. Our greatest enemies are in our own ranks and camps. See Dr. Holt but last January assailed by enemies from home in the medical profession. Hostile articles written in the *N. O. Medical and Surgical Journal*, and marked copies supplied to non-professional politicians, members of the committees to whom his yellow fever project was offered! *(Gaillard's Journal.)* It is necessary to force our legislature to see not only the injustice to the profession as a class, but the necessity of reform for the protection and safety of the people.

The Commonwealth must see to it that her officers are competent and able to acquit themselves fairly of their duties, as doctors for the State, and the best guarantee she can have is that of a good medical education. Besides, it is plainly the duty of the State to protect her citizens against the uneducated quack or pretender as far as she can in every department of business or every honest vocation, but as so much more is at stake in the department of medicine, it is especially incumbent upon her to protect the health and lives of her citizens by laws regulating the practice of medicine, laws such as will confine its offices to those fairly educated in the science and art of medicine. This, as before stated, is being gradually accomplished by other States, and without the curtailment of a single right properly belonging to any citizen of the Commonwealth.

On the contrary, the untold blessings their enactment and enforcement would confer upon "suffering humanity," through the protection thus given her people from the dangers and impositions of the charlatan hordes, clothed in the livery of scientific medicine, that infest the entire State, could only increase the liberty of the citizen, and at the same time sustain the dignity and promote the growth and prosperity of the State.

Dr. Riggs, of Selma, Ala., writes me: "Our act to regulate the practice of medicine has worked well, and has been a source of great power to the profession and the Association."

It helps to make the doctors feel an interest in the work of the Association. Who is the best attorney for the State, the educated, examined, and licensed lawyer, or the uneducated and unlicensed pettifogger? Has the Commonwealth ever selected for her agent to prosecute her criminals one who has never been admitted to the bar after proper examination and licensed to practice law? What does she prosecute and punish her criminals for? Is it not for the protection of the lives and property of her law-abiding citizens?

Then we ask you, gentlemen, who is the best doctor for the Commonwealth? The uneducated ignoramus that has obtained his license, if he happens to have any authority to go forth "as a wolf among lambs," without preparatory study, and in an incredibly short time by "cramming," and yet is fully authorized to practice the most intricate and responsible art ever assumed by man, one requiring a greater amount of study to master its principles than all other branches of learning combined; or the educated and accomplished physician, who has spent years in study before he can persuade himself that he is competent to take the lives of his fellows into his hands, knowing as he does, that a lifetime of study and observation is insufficient to master the science of medicine, and that to keep pace with its progress he must continue a close student during his professional life?

Whenever a government has had the opportunity to fairly judge between trusting itself to the uneducated and trusting itself to the competent, it has never repealed the statute that secured the better class. Therefore, self-preservation, State pride, and a community of interests should be ample incentives for our rulers, law-makers, and all educated citizens, to throw around the practice of medicine every safeguard possible; at least as ample as they have around the safety of property, which is sufficient. In the older and monarchial countries the laws governing the practice of medicine are more in accord with the dictates of humanity than we ever hope or expect them to be under our form of government.

Nevertheless, there are restrictions and safeguards that can be thrown around this vital occupation, sufficient for the security of the lives and sanitation of the people of this country, as far as our present knowledge can protect them without injurious abridgement of their liberties. A recent and familiar illustration of the difference between governmental restrictions in the older countries and those of this, is the statement that the renowned French savant, Pasteur, is not allowed to perform the simple operation of trephining the skulls of the rabbits or monkeys upon which he experiments for the dilution of his hydrophobic virus, or the simpler one of inserting the hypodermic needle by which to introduce his attenuated virus for the prevention of rabies, or to practice medicine, because he has never taken the doctor's degree.

What a contrast to the medical liberties of this country! Here the merest novice in surgery may not only trephine the skull of the monkey, but that of his illustrious descendant, man, who we know has made considerable advance in intellectual development over his original progenitor. While in France such a master in science as Pasteur cannot lawfully perform the most simple operation upon the far removed ancestor of the human race, much less upon the perfected animal; here so-called trained nurses are permitted to give subcutaneous injections of powerful alkaloids, and introduce into the human bladder catheters, bougies, etc. Why is it that our legislature constantly shows more willingness to appropriate sums sufficient to stamp out disease in animals than it does to protect the health and prevent disease in the people?

Let pleuro-pneumonia or other contagious disease break out among catttle, and this body is ready to appropriate a sufficient sum to stamp out the disease; yet it will stolidly and complacently witness the suffering of humanity from preventable diseases, and even see them die by hundreds, without voting an extra dollar to the sanitarians of the State to prevent the ravages of epidemics engendered by foul and leaking sewers, undrained lands, filth accumulations of every description. By the imbibing of poisons thus generated, either in drinking water, by the inspiration of foul air, or by cutaneous absorption, the vital powers are weakened, the fountains of life sapped, and the people thus placed at the mercy of numerous death-dealing diseases, all of which are preventable by the enforcement of sanitary laws; but when sanitarians and philanthropists show by irrefutable arguments the urgent necessity for sanitary reform, and appeal for government aid to carry out and enforce preventive medicine, and thus rescue from premature graves the annual thousands who die from preventable diseases, their cry is unheard, because the government turns a deaf ear to all such petitions.

Witness the spectacle presented to the gaze of all civilization by the legislative branch of our own State government. $2,500 per annum is reluctantly appropriated to the State Board of Health, to crush out and prevent epidemic disease from among the people of the entire State, and $6,000 voted from the treasury to stamp out a single disease in a single locality, and only among a single herd of cattle.

But the answer to all this has repeatedly been given—"the death of the animals depletes men's pockets, the pecuniary nerve is wounded."

The Commonwealth should make haste to blot out this disgrace to the most limited civilization by a liberal appropriation, at least sufficient to encourage her sanitarians to renewed labor for the protection of her citizens, by teaching even the most illiterate the simple principles of sanitation, and thus enable them when necessity demands it to enforce intelligent quarantine.

There is no objection to any effort on the part of the State or her people to stamp out animal diseases; but we do insist that innocent children and the uneducated men and women shall have an equal chance for their lives, as the life of one bright child is worth more to the State than that of many animals. When we consider the immense sums expended annually by the State in paying witness and juror fees, both often perjured or bribed, and the expense of the red-tapeism of everything official, to clear murderers and thieves, and thus rob the gallows and penitentiary of their dues, would it not be more conducive to the prosperity of the State and the moral and physical health of the people to hang the murderers and make the felons work for the State; and apply a portion of the sum thus literally thrown away in the encouragement of vice, to the advancement of medicine in all its departments?

1st. By securing for her medical officers a better education, sufficient to fill all the requirements in the various positions to which they may be called by the demands of the State, as experts in medical jurisprudence, aud qualified witnesses in all medical matters, and thus insure justice in criminal prosecutions, both to the accused and the Commonwealth.

2d. By securing the best system of State medicine, by encouraging her medical officers to become sanitarians fully acquainted with all the known principles of sanitary science and the laws of hygiene, competent to advise and direct the protection of the State and the enforcement of effective quarantine.

A law regulating the practice of medicine and confining its offices to the competent, by demanding more time and care for the education of her physicians, would of itself prove one of the greatest sanitary measures, as unqualified doctors kill more than micro-organisms, impure water, or defective drainage.

Such a law would do much to advance preventive medicine, and, of course, thus far protect not only the public, from the local spread of contagious diseases, but the State from the epidemic invasion of the several plagues that too often decimate populations. We are encouraged at least in hearing of the good results that are rapidly following the application of the principle of sanitary science in England, and some of the older States of the Union, by means of liberal government aid. These are so marked that they are beginning to be appreciated by all educated classes. When England, by her wise and liberal encouragement of sanitary and preventive medicine, has reduced her mortality from thirty to less than eighteen per cent. per thousand, there is no room for doubt on the part of governments of the wisdom of liberal aid for the advancement of State medicine.

What can add more to the commercial and agricultural thrift of a State than the disseminated knowledge that her climate is healthy, that her inhabitants are protected as far as possible from invasion of disease from without by intelligent and scientific quarantine, and from the development of disease from within by the enforcement of preventive medicine? What can most nearly approach this normal status, and give reasonable guarantee to immigrants, so surely as a well organized board of health, composed of educated sanitarians supported by a sufficient number of local boards, each composed of equally well qualified members? And what *alone* can enable the Commonwealth to organize these boards, and fill them, *without mistake*, with competent officers, but enforcing a higher medical education for all (male or female) who aspire to enter the medical profession, and by banishing, by statue, from her borders every variety of medical quackery?

It is not of the over-crowding of the profession or the number of M.D.'s turned out by the schools that we complain, for there is, and always will be, plenty of room at the top, and as far as the competent is concerned, this is easily regulated by the final "survival of the fittest;" but it is the haste that the great majority make to become doctors of medicine, and the door left so wide open by our present laws for the easy entrance of the hordes of charlatans that are yearly driven out of other States by more stringent laws, laws that restrict the practice of medicine to only those found competent by well-organized examining boards.

This latter class is becoming so numerous in the past few years, that the regular profession may reasonably become as indignant at the indifference of our Legislature as to exclain in the spasmodic language of the editor of *The Texas Courier of Medicine*, "The Legislature says come all ye who are burdened with little knowledge, and are heavy laden with rejected examinations; all refuse of Illinois, Indiana and Missouri come—come, too, the pretender and the hypocrite; come the homœopath, the allopath, the hydropath, the nopath, the electric, the eclectic, the physio-medical, and the faith doctor. Come, our fields are broad and our acres wide, our waters still and our pastures green. Come abide with us, bleed us, cheat us, murder us."

It is some comfort to know that our Legislature did "once upon a time," but after much bungling, pass a law authorizing the establishment of a Board of Health, and also that a Board composed of competent men was appointed by the Governor; but, alas! with an appropriation for its maintenance, so utterly inadequate that nothing but a philanthropic sense of duty would have induced its appointees to accept and serve.

The whole appropriation a bare compensation for the secretary, no compensation to the members, none for their supporters and co-workers, the local boards; and only deducting the half salary allowed the secretary—$1,200—little more is left than is necessary to pay for printing and postage, with nothing for sanitary work. Consequently, for want of means, the work of our Board of Health has been restricted to one-third of the amount of sanitary work it could and would have accomplished. With half the amount given their boards by several other less wealthy States, many lives might have been prolonged, or, at least, much distress prevented in Kentucky.

The wonder is that the Kentucky Board of Health has been able to accomplish the work it has, the amount of which can only be appreciated by the few who have taken the trouble to investigate the labors of this Board.

In this connection it is only justice to its distinguished Secretary, Dr. J. N. McCormack, to say that he has, since he entered upon the arduous duties of the office, accomplished more intelligent and beneficial work in his department, and with less compensation, than any other officer in the service of the State. Individually, and at the expense of his private interests, without abatement of zeal, he has accomplished as much for the progress of sanitary science as could be expected of an entire board of sanitarians. And as an illustration of this progress in the United States, we have only to note the rapid increase in the number of State Sanitary Boards. The first of these boards was organized, in Massachusetts, in 1869.

Dr. Henry I. Bowditch, in his centennial address before the International Medical Congress, "On Public Hygiene and State Medicine," reports only twelve States that had, up to that time (1876), State Boards of Health. To-day there are twenty-nine that have active Boards of Health, showing an increase of over one hundred per cent. in ten years; which is encouraging progress, and shows more governmental care for the public health than its most enthusiastic advocates expected at the time the great sanitarian and philanthopist of a continent delivered his able appeal for preventive medicine.

And when *observation* and the careful and accurate record of facts as witnessed in the phenomena of disease, without regard to theories, shall have solved, as they alone can, the natural history of all diseases, it will be found that the best methods of preventing, modifying, and often curing them, without other aid, will be by the proper application of the grand principles of sanitary science. The foundation and capstone of this is *cleanliness;* and its employment in the prevention and treatment of diseases a *sine qua non.* Dr. Bowditch says the development of sanitary science is the great work of the future. But if we could obtain nothing better in the way of legislative control of the practice of medicine than a simple statute embodying old usages, when custom made it necessary for an aspirant for medical honors to have studied three years in the office of a preceptor before he thought of matriculating in a medical college, and when it was more difficult to obtain a diploma than now, it would be something.

A law requiring the sworn certificate of a reputable practitioner, that the applicant for matriculation had been in reasonably close study of medicine for three years, would lessen the number of matriculates, and give the schools much improved material, made up of those who had the perseverance and means to go through the preparatory study.

The enforcement of some such law, with the co-operation of the profession, pledging its entire membership not to receive as pupils any who did not possess a fair English education and a reasonable amount of intelligence, would do much towards ridding the State of many incompetent doctors.

But, to say the least, if the profession desires to see the standard of medicine raised above the lowest charlatanism, it must unite as one man, and go to work to exert all the influence of a great body, as it is, upon our Legislature to secure such laws as will at least check the present hasty production of doctors.

But, I repeat, the execution of such law should in some way be placed outside of the arena of politics, so that the officers or executives of such enactments should be independent of political favoritism. Suppose this Society be authorized, by legislative enactment, to act as an organized Medical Board, with authority to elect by ballot from among its membership, or outside of it, if more capable men can be found; all the public medical officers of the State, that is, both the Examining Board and State Board of Health, being subject to the confirmation of the Governor.

This would, of course, tend to increase largely the influence of the profession in all matters pertaining to the health of the State and prevention of disease within her boundaries, and the interest in the State Medical Association by the entire profession, with an enlargement of its membership; and consequently result in a more earnest and organized effort to elevate and advance legitimate and preventive State Medicine.

Therefore permit me to suggest, as the first step towards such grand results, that a committee of five or more members be appointed by this Society to draft a law covering the necessary legislation to suppress quackery, and enforce a higher medical education, and the more perfect regulation of the practice of medicine in all its branches, in the Commonwealth of Kentucky; that this committee be instructed to address a circular letter to every reputable and regular practitioner in the State, setting forth in substance the provisions of, and the objects to be attained or desired by the law, with the request that every one thus addressed will endorse with his or her signature the said circular, and return it to the chairman of the committee to be used as authority in a memorial to the legislature; that such memorial and drafted law shall be presented to the General Assembly of the State of Kentucky while in session, by said committee, or such member as they may select for this duty; and that the necessary expense of printing, postage, and travel of said committee be paid out of the treasury of this association.

You will observe that I have included the opposite sex as a part of the medical profession, because they are now recognized as the compeers of man in medicine; for which, individually, I thank God.

In every relation in life man is the better for her companionship; in every undertaking in life, when he has had the co-operation, sympathy, and encour-
oman, he has been more successful, and the labor has been less
omplishing it.

tly, her equal interest, responsibility, and cordial association with us in medicine, as an earnest co-worker, is of itself a great advance towards the moral elevation of the profession. Women will make better students, because more in earnest and more sincere; and, as all admit that intelligent nursing is more than half the battle in the treatment of disease, they will make better practitioners, because they are by nature better nurses, more delicately skilled in touch, and more sympathetic.

In fact, woman was divinely intended from the first creation to be an improvement on man. This is proven by the material employed in her creation. Adam, the man, was made of such crude material as dirt, while Eve, the woman, was made out of pure bone, refined by the process of bioplastic organization; not even of dead bone, but bone taken from the living man while in a state of anæsthesia, which fact alone sustains her title to enter the profession of medicine and surgery, as her creation was the result of the first surgical operation ever performed under anæsthesia. Again, statistics prove her to be clearly man's superior, because they show that there are in the world one-third more females than males. God made more of them because He saw they were an improvement on His first creation. We are compelled to admit, however, that this is the reverse of man's custom, for in mortal creations the things most precious and valuable are fewest.

This society can already boast of being honored by the enrollment of two of the opposite sex as members, and my sincere wish is that the list may increase, until many more shall be added to its membership, as I believe we need never fear of meeting among the number of female graduates a single ignoramus.

May God continue to bless with His approval the labors of these objects of divine appreciation and man's adoration.

ARTICLE VI.

A CASE OF AMPUTATION AT THE HIP-JOINT, UNDER STRICT ANTISEPTIC PRECAUTION; RECOVERY WITHOUT THE SLIGHTEST SUPPURATION. BY THOMAS P. SATTERWHITE, M.D., Surgeon to the Louisville City Hospital, Louisville, Ky.

Lulu Evans, white, aged twenty-seven years, married, admitted to the Louisville City Hospital, January 19, 1884.

Previous History: She had almost uniformly good health until three or four months prior to the accident which resulted in such serious consequences. Six years ago she was married, and lived with her husband two or three years. She states that he had syphilis before their marriage, but she had seen no constitutional manifestations. Although conception took place, she never reached full term, but aborted twice at the third and fourth months, respectively. Three years ago, while carrying a bucket of water across the room, her left lower extremity suddenly gave way, without her having sustained any injury whatever. On examination the left femur was found to be fractured near the juncture of the upper and middle thirds. This spontaneous fracture had been preceded by pain in the limb, but not enough to disturb sleep and general health.

Immediately after the fracture had occurred, she was taken to the Louisville City Hospital for treatment. In the course of a few months bony union had taken place, but the callus poured out at the seat of lesion did not diminish; on the contrary, it increased, and soon a marked osseous enlargement involving almost the whole length of the femur, from the condyles to near the trochanter major. During the growth of this new formation she began to suffer a good deal from pain, which became almost constant. She came under my care in June, 1885, when her suffering had grown very severe. After consultation with Dr. J. M. Holloway, it was determined to trephine the bone. This was done, and a button half an inch in diameter was removed. The trephine penetrated into the medullary canal. The portion of bone removed appeared healthy, but the microscopist of the hospital, Dr. J. B. Marvin, reported that it was the seat of osteosarcoma. Marked relief from pain immediately followed the operation. Although she had acquired the morphine habit, I was quickly enabled to withdraw the opiate entirely. During the ensuing two months she enjoyed perfect freedom from pain, but her suffering gradually returned with the increased growth of the neoplasm. It became necessary to resume the morphine, which after a while was taken at the rate of three grains in twenty-four hours.

In May, 1886, a consultation was held with a view of considering the advisability of amputation at the hip-joint. Prof. Donald Maclean, of Detroit, Michigan, being on a visit to our city, kindly accepted my invitation to join in it with Drs. Holloway, Cartledge, Morton and Leber, and all agreed with me on the following points:

1st. That amputation at the hip-joint was the only procedure that afforded any prospect of relief.

2d. That it was a favorable case for the operation.

3d. That the patient was at that time in as good condition as she would ever be in.

4th. That the operation ought to be performed without any unnecessary delay, as the patient herself was not only willing but desirous to have the operation performed. I decided upon operating at the earliest practical moment.

On May 27, 1886, at three o'clock, P.M., the patient was examined, and her condition found to be as follows: She had lost much flesh, yet her nutrition was comparatively good; appetite rather feeble. Her heart and lungs were in good condition. No evidence was elicited of renal disease. Locomotion was painful in the extreme, and possible only by the aid of a crutch. The affected thigh was one-fifth larger in circumference than its fellow of the opposite side. The bone felt twice as large as the other; it presented a hard irregular enlargement which extended from within two inches of the condyles to immediately below the trochanter major. After the administration of one ounce of whiskey and a hypodermic injection of one-half grain of morphine, the patient was anæsthetized with chloroform by Dr. T. F. Berry. At the suggestion of Prof. Maclean an instrument described by him had been made by Tafel Brothers, of this city, and was adjusted upon the patient in order to control hemorrhage by compressing the abdominal aorta. This was skilfully and successfully manipulated during the operation by my friend, Dr. Geo. W. Griffiths. An Esmarch bandage was applied to the whole limb before the tourniquet was adjusted, and as soon as anæsthesia had become sufficiently profound, and pulsation had ceased in the femoral artery, the operation was commenced by making the antero-posterior flaps.

Disarticulation was readily accomplished. The hemorrhage was perfectly controlled, so that not more than two ounces of blood was lost. Catgut ligatures were used for tying the vessels, and were cut short. After all oozing had ceased, horsehair drainage was established, and the flaps were brought together with silk ligatures previously soaked in bichloride solution. The deep sutures were an inch apart, and the superficial ones were introduced between them. In order to protect the patient as thoroughly as possible from all septic influences, she was placed in a tent in the hospital grounds early on the morning of the day that she was to be operated upon. The tent had previously been cleansed by prolonged immersion in boiling water. A new iron bedstead, with entirely new sheets and bedding, had been placed in the tent, and was disinfected with the bichloride solution (1 to 2000) before the patient was moved into it. The nurse's bed was of the same description, and the same precautions were taken with it. New buckets were provided, and after they had been scalded out with boiling water, a solution of bichloride (1 to 1000) was continuously kept in them. Sponges and bandages and towels had all been immersed in this solution before being employed. All instruments and all animal ligatures used were kept immersed in a solution of carbolic acid (1 to 30). Every one engaged about the patient during the operation had taken special care to rid himself of septic germs, by ablution and the use of bichloride solution upon the hands (1 to 1000). The patient herself was thoroughly cleansed by careful ablution with warm water and soap, after which the lower part of her body was washed with the bichloride solution (1 to 1000). The vagina was tamponed with absorbent cotton, and the hairs upon the labia and mons veneris were cut quite short.

During the whole operation a stream of water containing bichloride (1 part to 2,000) was made to play upon the cut surface. When the edges of the wound had been brought together, a small stream of this bichloride solution was projected into the interior, in the course of the drainage-tube. The excess was expelled by gently pressing the flaps. Iodoform was liberally applied all along the closed wound by means of an insufflator. The stump was then enveloped n absorbent cotton saturated in bichloride solution (1 part to 2,000). Dry absorbent cotton was now placed over this, and the whole kept in place by means of antiseptic bandages carefully applied.

Immediately after the operation had been completed the patient was removed to her bed, and a small pillow adjusted under the flaps. She rallied quickly and satisfactorily from the anæsthetic. There was some shock, temperature in the axilla being 97° Fahr., pulse 120, though of fair volume, and respiration 25. One grain of morphine was immediately administered hypodermically, and as soon as she could swallow she received one ounce of whiskey. By ten o'clock the temperature had fallen to 96 4-5°, respiration was 26, and the pulse remained 120, but was of better volume, while the patient felt better. At midnight another hypodermic injection of one grain of morphine was given. Whiskey was continued in doses of one ounce every two hours. Quinine, five grains every six hours, was also given.

May 28. Nine o'clock, A. M. Temperature 98 4-5°, respiration 18, pulse 120, of good volume. Up to this time she had received eight ounces of whiskey and about three grains of morphine. Her stomach now began to reject everything. The whiskey was withheld, and Werner's extra dry champagne was given instead, in small quantities, and repeated at short intervals. Valentine's meat juice and milk were also administered every two hours.

Twelve o'clock, M. Temperature 98 1-2°, respiration 16, pulse 120. Vomiting has ceased.

Seven o'clock, P. M. Temperature 98 1-2°, respiration 17, pulse 132. Hypodermic injections continued as before the operation.

May 29. Nine o'clock, A. M. Temperature 98 1-2°, respiration 16, pulse 112.

Seven o'clock, P. M. Temperature 99°, respiration 18, pulse 130.

May 30. Nine o'clock, A. M. Temperature 98 1-2°, respiration 24, pulse 112. She had a slight sweat during the night. Tongue heavily coated.

Seven o'clock, P. M. Temperature 99°, respiration 20, pulse 118. Champagne discontinued.

May 31. Nine o'clock, A. M. Temperature 99 1-2°, respiration, 24, pulse 120. She had three loose evacuations during the night. Treatment continued as before, save that the tannate of quinine was substituted for the sulphate.

Seven o'clock, P. M. Temperature 99°, respiration 18, pulse 120. Diarrhœa had continued during the day, there being three evacuations. She now mentioned that her mouth felt sore, and had been for two days. On examination she was found to be slightly salivated. Chlorate of potassium in small doses was given every hour.

June 1. Nine o'clock, A. M. Temperature 99°, respiration 18, pulse 120.

Seven o'clock, P. M. Temperature 99°, respiration 18, pulse 120. Diarrhœa somewhat controlled.

June 2. Nine o'clock, A. M. Temperature 99°, respiration 18, pulse 10.

Seven o'clock, P. M. Temperature 98 1-2°, pulse 130. Bowels quiet.

June 3. Nine o'clock, A. M. Temperature 98 1-2, pulse 110.

For some days the dressings have been wet with synovial fluid and sanious discharge. During the night there was some hemorrhage, and the resident surgeon (Dr. Jenkins) was summoned and remained with the patient till morning, but there was no further loss of blood. The dressings were removed, and the wound was found perfectly free from any odor. One-half the length of the horsehair drainage was withdrawn, which was followed by a flow of some venous blood, perfectly odorless. The stitches were perfectly dry, and the point of insertion free from all irritation or discharge. Union has taken place. The bichloride solution was discontinued, and a dressing of iodoform with carbolic acid (1 part to 40 parts of water) was used in place thereof. The hemorrhage was due to a sudden movement made by the patient while in a troubled dream. It was not excessive.

June 4. Nine o'clock, A. M. Temperature 99°, pulse 114.

Seven o'clock, P. M. Temperature 99°, pulse 116.

June 5 and 6. Temperature and pulse as on the 4th.

June 7. No change in temperature. As she had some uncomfortable sensations about the stump, the dressings were removed. There was not the slightest evidence of discharge or irritation, and the sutures were perfectly free from moisture. They were now removed, and adhesive strips substituted. Union perfect, save where the drainage offered a mechanical obstacle. It was now withdrawn, and with it came away about two ounces of odorless, venous-looking blood, the presence of which doubtless had been the cause of the discomfort she complained of. Owing to it and the continued oozing of synovial fluid, a short rubber tube was inserted; its extremity, projecting beyond the edge of the wound, being enveloped in absorbent cotton saturated in bichloride solution (1 to 1,000), and covered with iodoform and absorbent cotton. This dressing was changed whenever necessary. In thirty-six hours there was hardly any discharge from the tube, and at no time did it exceed a teaspoonful, of the same odorless, sanious fluid already mentioned. The patient felt so well that she constantly tried to rise from the bed or change her position, which may have augmented the discharge.

June 8. Temperature 98 1-2°, pulse 100. Stomatitis found almost cured, and the patient declared that she felt better than she had felt for several years.

June 11. With increasing strength, and consequent frequent changes of position, the dressing soon became loose, and had to be changed at shorter intervals. They were still applied as last described (June 7). The discharge from the tube had so nearly ceased that the latter was removed. No fluid escaped on its withdrawal, and when examined a long piece of fibrin was found in it. Union of the flaps was soon so complete that even the sinus of the drainage-tube had closed, and without a drop of pus having been seen throughout the whole healing process. On the 21st of June the patient was sitting up, and Dr. Jenkins reported that in four weeks she was able to walk about with the aid of crutches.

Dr. Edward Von Donhoff, who kindly made a careful examination of the amputated limb immediately after the operation, furnished the following report of its condition:

The femur having been denuded of the soft parts, and the bone divided by a longitudinal section, the following appearances were observed: At the juncture of the upper and middle thirds was a cicatrix of an ancient fracture; it involved the entire thickness of the shaft. Above and below this the medullary canal was much enlarged, and the cortex much attenuated. The medullary structure was dark red in appearance, and thickly charged with gritty débris. At both ends the cancellated part of the bone was much softened, and covered by cartilage in the initial stage of fibrous degeneration. The periosteum was readily detached from any part of the bone, and was thickened and soggy.

In conclusion, I would express my appreciation of the kind and efficient aid afforded me by Drs. Holloway, Cartledge, Leber, Griffiths, Berry, and Jenkins.

LECTURES.

OF THE MANAGEMENT OF INSTRUMENTS IN OCULAR SURGERY.

By Dr. Landolt.

Opening Lecture (delivered December 1, 1885) *of the Course on Ocular Surgery, given at the School of Practice of the Faculty of Medicine, Paris.*

(Translated for Gaillard's Medical Journal, by C. H. Beard, M.D., Bridgeport, Conn.)

Gentlemen—If I have begged the honor of taking up again my discourses at the School of Practice, it is that I may treat practically of one of the most practical of all subjects—ocular surgery. Then let us give little time for speech, much for exercise.

You see before you the head in which the eyes shall serve at our operations; you see also the instruments with which we shall perform. But before putting hand to these it would seem proper to consecrate a few words to their management, as, likewise, to the ends *for* which and the grounds *on* which we shall operate.

It is not you, gentlemen, who will say that these preliminaries are of superfluous theory. You shall not be counted among the empirics; you desire to become—or you are already—accomplished physicians, surgeons, even, perhaps, specialists, belonging to that noble order of those who recognize both theory and practice, who have found in science the basis, and in observation and experiment the achievement, of their medical education.

What, in effect, is theory in the art of surgery, unless the *résumé* of the experience of our predecessors. It is spoken or written practice.

Then should it be deemed useless, unnoticeable? By no means. It will save us from a multitude of errors, turn us from those false routes on which too many practitioners have already been lost, and show us the way which leads most surely to the goal.

To be sure, we would not follow blindly the tracks of those who have gone before. We will never abdicate in favor of no matter what precept, however surely established it may seem. "*Jurare in verba magistri*" has never been the weakness of him who has the honor to address you. There exists no profession, in fact, which requires more independence of spirit, more of the initiative, than that of the surgeon. But if it be indispensable that he have his eyes open to all that is around and before him, he certainly should not close them to that which is behind him. To what owes the surgery of France its glory and its venerable renown unless to the profound study of anatomy, which has been always more thoroughly pursued here than elsewhere, making a scientific basis to what is handed down by illustrious masters, which constitutes the theoretic side, and to the practical, open, and enterprising spirit of their disciples?

How is it, then, that one hears of practitioners who essay to decry theory and science, and who would put themselves in opposition to the practical alone? It is because they know not the *true* theory which finds its justification in the practical; because they do not possess science, and are incapable of acquiring it. Feigning to believe that a perfect knowledge of the anatomy and physiology of an organ does not accord with the exigencies of practice, they evidently hope that, being the more ignorant in science, they should be considered the more accomplished operators. Fortunately, however, one does not exclude the other—quite the contrary. To be a thorough surgeon it is necessary, above everything else, to know well the organ on which one operates. And this is not only indispensable, but even comparatively easy to realize in a domain so limited as that of ophthalmology. I sincerely trust that those among you, gentlemen, who feel yourselves drawn to this very seductive branch of medicine shall be able to unite to acquaintance with theory the experience and aptitude of the surgeon. You will not be specialists in the specialty.

But to return to our instruments, we permit ourselves at first certain reflections as to their management. Is it not thus in all things? Are we not taught how to hold the pen before we are allowed to write? And is there any one so poorly advised as to go to the field without being carefully tutored on the subject of the management of arms? It is true that it behooves him, in this instance, to defend his own skin before breaking that of his adversary. But the patient who confides himself to our bistoury, does he not merit the same consideration we accord ourselves? Let us, then, learn thoroughly the exercise of the arms with which we expect to defend those who place themselves under our care.

Above all, be well apprised of one thing. It is that there is but one surgery. Its fundamental principles are everywhere the same, as well for operations as for consecutive treatment. It is only its application which is modified by the part of the body on which it is employed. This is why, in ocular surgery—so individualized because it concerns the eye—we hold always to the rules of general surgery, to whom it is the younger daughter.

However, we shall note at once the more marked differences of detail which exist between the daughter and the mother. The field of ocular surgery is, to begin with, very limited in comparison with that of grand surgery. It is for this sole reason that we denominate the latter "grand." Then, the organ on which we operate in ophthalmology is essentially mobile. The globe of the eye will turn notwithstanding the narcosis, notwithstanding the fixation forceps, while all other parts of the body may be rendered immobile.

So it follows that the surgery of the eye requires a management of instruments somewhat different from that of surgery in general, and that it demands a delicacy, a surety of the hand and a dexterity of the fingers extraordinary.

Take, for example, the management of that instrument typical of the surgeon—the knife. A classic section forms, in effect, a portion of an arc, having a centre practically fixed, and a radius long or short as the incision is more or less extended. Those among you, gentlemen, who wield the sabre know that this trenchant instrument has often for its centre of motion the armpit, for radius the length of the arm, and for arc of section, if possible, the entire trunk of the adversary. It is not materially otherwise with the great sections a surgeon is sometimes called upon to execute in the cause of humanity. These, equally, are made with the participation of the entire arm.

The sections less extended have for radius the forearm, and the smaller the hand alone, turning on the articulation at the wrist.

I passed too much time, both as student and practitioner, in the school of general surgery to ignore the fact that the hand, far from being an inert prehensile organ, gives to the section its finish; yet it may be affirmed, nevertheless, that the wrist forms, so to speak, the line between general and ocular surgery. A classic oculist should not have recourse to those movements which proceed from the wrist except for varying the position of the hand, and in plastic operations which pertain, in the matter of technique, as much to the domain of general surgery. But ocular operations proper he should perform only with the *fingers*.

See, then, we have passed from the sabre to the foil, from the "circular stroke" to the *digital*. Indeed, it is the digital which makes the operator in ophthalmology. Our tiny sections require, for the very small excursions of the instrument, a radius which scarcely passes two phalanges. On the other hand, the organ we engage is so delicate, so mobile, that it calls for such nicety, such promptness, such harmony of movement, that he who allows participation of wrist or elbow risks a hundred times to sacrifice an eye even while attempting a simple keratotomy.

One is not an oculist at will, gentlemen. Aside from the science, which, although it has attained a development sufficiently respectable within the last thirty years, a man of average intelligence and assiduity may still be able easily to acquire enough for the needs of practice—aside from the science, I say, the oculist should be, at the same time, a surgeon. And for this is necessary an aptness and a training quite particular, with which many are never blest. The great schools of ophthalmology have perfectly recognized this. I recall that wherever I have followed courses in ocular surgery—in Austria as in Holland, with Horner as with Von Graefe—everywhere were cultivated certain exercises destined to render the fingers independent of the hand, and independent among themselves. It is thus that one may come to give them that suppleness of movement, that delicacy of touch, which has made the great masters in ocular surgery—the Daviels, the Desmarres, the Jaegers, the Critchetts.

It is necessary, in sooth, to know how to follow the varied and multiple movements of the eye, that little organ so quick, so subtle, so capricious. It is necessary, moreover, with exquisite tact to foresee them, to "give the rein" at need, to borrow from equestrian parlance, and to "draw it in" at the desired moment.

Take, for instance, gentlemen, the operation for cataract. Does it not require great surety of the fingers to accomplish, notwithstanding the considerable difference in resistance, a section of a given extent, in a position and direction desired, and all within the limits of the fraction of a millimetre? And what a tactile sense is needed to detect the minimum of resistance offered at the point of the cystalline by the capsule of the lens, microscopic in its thickness, yet so variable in its consistency! Even the cleansing of the site of the operation after the exit of the lens—"the toilet" of the eye, as one of our more distinguished colleagues has elegantly called it—requires an infinity of combined and complex movements of the fingers, and will never be successfully done by him whose blunt pulps represent but the five terminal ramifications of the arm.

How shall one acquire these operative qualities? I have already indicated a means—the methodic exercise of the fingers.

One should not neglect, meanwhile, the position the body should assume, as also the arms, and, above all, the art of grasping and guiding the instruments.

Many of our renowned surgeons have operated sitting. But I consider that position as less commendable; it restrains notably the movements of the operator. The greatest liberty of action and the utmost independence of movement are necessary to operate well and to meet all the emergencies. It is for these reasons that I prefer to operate standing—the patient lying. One may thus alter his position easily and quickly.

I recommend, moreover, to have the arms free at the side of the body, and the elbows elevated and rounded, unless in certain exceptional cases. The arm forms thus a lever to which the hand is *suspended*.

I say "suspended" advisedly—and not "fixed." The surety of the hand consists, in fine, in its complete independence of the arm, which is possible to a much greater degree than one might imagine. Thus one may, after practice, as you see, come to hold the hand motionless in air while he lifts and depresses the elbow. This movement seems absolutely impossible to him who has not practiced it, simply because it is one not employed in usual life, where one moves the hand always with the arm. But you comprehend, gentlemen, that if the hand is attached to the arm by a rigid wrist, the least motion of the shoulder will be transmitted to the fingers, and will impart to this extremity of the lever a most pernicious excursion. If, on the contrary, the hand be only suspended from the arm, the latter will maintain it in the desired position without communicating to it a shock or any trembling, and above all, allow it all the liberty of rotation.

I do not know how to insist enough on this principle, which has always come to my rescue in the more perilous cases. In the event of an operation of unusual complication, ask first of all, is my arm well poised—is my hand quite free?

These are, gentlemen, *grosso modo*, the principles of the pose of the body and the arm, of the movements of the hand and fingers of the operator in ophthalmology. Let us now seize the instrument! You may well suspect that this act does not claim less attention than the attitude of the member which conducts it. In fact, the service which the instrument is to render us depends, in great measure, upon the manner of our holding it.

Now, we lay down as a chief fundamental rule, that it is advisable to grasp our instruments, and to hold them, after that fashion which permits of the greatest, and most rapid variation of their direction. It is desirable, in short, that they form only prolongations of the fingers, and that they adapt themselves to the utmost to the marvellously varied play of their muscles.

Somewhat rich as is our operatory arsenal, one may range the instruments in three categories from the point of view of their management; first, the instruments in handles; second, the scissors; third, the forceps.

For the first—the handled instruments, we agree, on general principles, to hold them much the same as we would a pencil, which, also, ought to be conducted easily in all directions. It is true that, its point having power to move in every way, the handle of the pencil is commonly round, while the most of the instruments which we use find their application only in a single direction—that of the edge. It is for this reason that their handle is rectangular in shape, the angle being champed. This form is very convenient; it warns us throughout of the direction of the blade, or the point the handle carries. It prevents to the utmost the execution of involuntary rotations, at the same time permitting us to turn it at pleasure around its axis.

But, to vary thus the action of the instrument, it should be grasped with the pulps of the fingers only—those of the thumb, the index, and the medius. It should do no more than rest lightly on the first phalanx of the index, over which it will glide or roll, according as one imparts to its extremity a movement of section or rotation. In order that these movements may be possible, it is specially required that the pulp alone, and not a greater or lesser portion of the phalanx, should be in contact with the instrument, and that that of the index should be separated somewhat from that of the thumb. It is only in this wise that one may be able to execute his sections by the simple elongation and retraction of the fingers, and the most complete rotations without the participation of the hand.

Sometimes only a single portion of the pulps of the fingers should take part in the management of the instrument. This so happens, for example, for the lance-knife, the cystotome, the curette—in one word, with the instruments that are conducted in the saggital plane, or that are made to turn around the vertical axis.

The handled instruments are composed generally of three parts; the handle, which represents, so to speak, the passive portion, the blade (point or crochet), in a word, of the active portion, and of the shank, or *talon*, which unites the first to the second.

I have indicated elsewhere* the principles for the perfect making of the instruments of ocular surgery. We return there now only to recall that the three parts mentioned should have their parts proportioned according to the destination of the instrument. Thus, the thumb and the index being applied on opposite sides of the handle, the extremity of the medius should arrive exactly at the base of the *talon*. It should not be applied there entire, except for the lances, where the shank is very long.

It is thus that one may obtain for the active extremity of the instrument the greatest liberty of motion, without detracting aught from the surety of its management. It will be readily understood that, if the movements of the instrument are the more extended and varied, as the point is the more removed from the fingers, the surety of its action will be greater in proportion as the fingers are more nearly approached to the point.

This is especially applicable to the management of the scissors.

For the manipulation of these latter, we pass the thumb into one of the loops, and the ring-finger into the other, though hardly so far as the articulation of the last phalanx. A part of the bulb of the finger engages here very lightly, something like the foot in the stirrup, if I may be permitted to use the comparison; it has always seemed to me to describe very well the easy, though steady contact which should exist between the fingers and the loops of the scissors.

The bulb of the middle finger rests at the limit of its anterior third, on the loop, and the side of the corresponding branch of the scissors. The index, lightly bent, should be applied at the cross of the scissors, a little this side of the pivot. It is thus that we may conduct these instruments freely in all desired directions. But, to do this, the hand must be quite independent of the arm, as we have just explained. No instrument—unless sometimes the iridectomy forceps—require oftener than the scissors the rounding and the elevation of the elbow.

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* Lardolt. "A box of Instruments." (Arch. d'Opth., July-Oct. 1883.)

There is, however, one exception. It is the *forceps-scissors* of de Wecker, which necessitates a management altogether different from that of the ordinary scissors. There are neither loops nor crossed branches. It resembles a forceps, as the name indicates, and should be managed as such. The forceps-scissors represents, in effect, the transition from the scissors to the forceps. The management of the latter is, like the instruments themselves, quite simple. You will be all the more astonished, then, to meet with operators who do not manipulate these little instruments according to the rules of art.

Every forceps should be held by the pulps of three fingers only. That of the thumb, placed in the centre of the file-roughened portion of one side, that of the index of the upper half, and the medius or the lower half, of the carved part of the opposite side. But the upper extremity of the forceps should never rest on the phalanges of the index—still less be taken into the hand. In holding the forceps as we have suggested we obtain all the force necessary, and we may impart to its jaws all desired motion. This rule is especially valuable for the iridectomy forceps, which a good operator makes to advance, withdraw, ascend, descend, or turn solely by the pulps of his fingers; for it may be called upon to take hold of tissues much more difficult to seize than a prolapsed iris.

These are, gentlemen, the rules that shall guide us in the management of our instruments. You will appreciate their importance better still in the course of our practical experiments, during which we shall take occasion to develop the details and to point the exceptions.

By following our rules it were possible to perform every ocular operation without taking the least support on the head of the patient, and this would be the height of refinement. Certain instruments, as scissors, for instance, really demand this position. In our operations on the cadaver we shall extend it to all the others in order to acquire the greater suppleness, the utmost independence, and the completest sureness, in the movements of our fingers. But in actual practice it is not only permissible, but even commendable, to apply at least the tip of the little finger to a part adjoining the eye to be operated upon. One puts himself thus in direct communication with the patient. This is advisable, not to render the hand more steady, but to be able to follow easily with the instrument any movements that the patient may execute with the head.

A finger well educated will warn us throughout of the disposition of the patient; whether he tremble, whether he contract his muscles, or whether he yield tranquilly to the operator. It will signal us at once of these sudden movements which require prompt withdrawal of the instrument in order to avoid serious collision with the eye.

But to meet well this end the hand of the operator should not press upon the head of the patient. I repeat it, and insist thereon, if the little finger *is* applied, it is only for the purpose of establishing communication between ourselves and the patient. He who shall have need of a *prop* in operating would do well not to meddle with ocular surgery, where a hand at once sure and light is peremptory.

One need not tell us that he has seen great operators tremble. They were perhaps great *oculists*, but certainly not perfect operators. Or, if they had been formerly, they had lost that quality with age.

Old age, in fact, renders improper the management of arms great and small; it deprives the body of these qualities, the most essential to the operator. But the trembling of a senile hand—a hand which has in times gone by restored sight to thousands of the unfortunate—is not only more respectable, but far less dangerous, than that of a man who, though still young, is not master of his nerve.

I have seen nothing more touching than one of our great masters in ophthalmology, a glorious operator, grown old in his noble ministry, yet, meanwhile, always indefatigably at work. When his fingers, less young than his evergreen spirit, seemed to lack something of their wonted surety, quickly and discreetly came the hand of a young assistant and perched upon the desired spot to serve as a support to the aged master. And, I assure you, that he did not miss his aim by a demi-millimetre, and obtained results that would have done honor to the strongest. It is that, having been always clever, his hand knew how to combat even its proper infirmity, and to seize on the propitious moment in the midst of many aimless movements.

But trembling may well have other causes than senility. Very often it is of *nervous origin*. A certain malaise, an inquietude, seems to take possession of some surgeons as soon as they are summoned to operate upon a fellow creature, be he awake, asleep, or even dead. In the first case, a restless imagination paints for them, in colors too vivid, all the dangers that can possibly present themselves during and after the operation. They have not that happy disposition of character of one of our distinguished surgeons, who as yet young and unknown, was called upon to operate in the case of a grand personage The operation terminated, the latter said to him with an air of condescension "You have been very courageous, doctor, to have dared to operate on me without trembling." "Oh, it was not for *me* to tremble!" tranquilly responded the young operator, thus manifesting two of the grandest qualities of the surgeon: calmness and assurance. Indeed, he rapidly became one of the lights of French surgery.

Sometimes it is not so much interest for the patient as ambition—the fear to excite the criticism of those around—which deprives the surgeon of the necessary composure. The poor unfortunate then finds himself in a predicament; the more he longs to shine the more he trembles, and the more he becomes demoralized.

That *poisons*, such as tobacco, alcohol and others, have power to influence in a most deplorable manner the hand of the operator, no one will deny. Sobriety is more indispensable to the oculist than is the *calcul intégral*.

But often the uncertainty of the hand is due simply to *weakness of the arm*.

If the latter has not the force to sustain itself for quite a while immobile in one position, it begins to tremble, and its movements, hardly perceptible at the shoulder, augment in a most dangerous fashion at the extremities of the fingers. See, then, how wrong it is to accuse corporeal exercise: gymnastics, rowing, the chase, equestrianism, fencing, etc., of power to become prejudicial to the surgeon. It is just the contrary which is true; unless the thing be pushed to the extreme of making of one's self a professional acrobat, of attempting the extraction of a cataract after the manner of the fourth pass.

Be assured, gentlemen, that all which tends to fortify the health, physical and moral—all that which renders more vigorous the arm and augments the courage, can only profit the surgeon.

And now, aside from the qualities we have already demanded for the surgeon, there is one which is even more indispensable which is the most important of all; it is confidence in himself; without this there is naught of surety, naught of elegance, naught of success. And this confidence—it is born of a profound acquaintance with the task which is proposed of a familiarity with the management of instruments, acquired by experience, and of that virile sentiment which is the prerogative of health and manly exercise.

Upon this let us to work—talk little, observe and labor well, at last to realize the principles that I have been able but briefly, and after a general manner, to expose.

Our conferences shall be devoted to the practical exercise of ocular operations on the cadaver, on the eyes placed in the mask, and on those of living animals. The theory shall comprehend but the statement of the operation we propose to do, and, if you will allow the criticism, of what we have done.

SELECTIONS.

ON THE NATURE OF SCROFULOUS GLANDS IN THE NECK AND THEIR SURGICAL TREATMENT.—By Kendal Franks, F.R.C.S.I., Surgeon to the Adelaide Hospital, Dublin.

I should scarcely be justified in discussing the methods of dealing with that condition of the glands of the neck which centuries have agreed in calling *scrofulous* were I not, in the first place, to attempt to explain what is meant in the present day by scrofula. According to the views which we hold on this subject will our treatment depend. If we look upon scrofula in all its stages as a *diathetic* disease, then our treatment will be directed to correct this tendency; in other words, we shall have recourse to constitutional measures as the most rational—as those which promise the greatest success. If we, on the other hand, hold that scrofula is *infective*, that it owes its origin to a virus making its way into the system from without, then our treatment should, in the first place, be directed against the virus—to keep it out of the system, or to eliminate it. Between these two modes of estimating the nature of the disease we have a third, which combines them both—namely, that scrofula is an infective disease due to a definite poison, which can only find its development, however, when planted in a suitable soil; that is to say, when it gains an entrance into the tissues of a person presenting a peculiar constitutional habit, "the greater vulnerability of parts and the greater pertinacity of disturbances," as Virchow has defined it. If we accept this latter view—and recent investigations, I believe, have fully established its truth—scrofula must cease to exist as a distinctive disease, and the neutral zone between scrofula and tubercle, which has been the battle-ground of pathologists in years past, must disappear. We shall never, I suppose, eliminate the term scrofulosis, but we shall use it in a different sense from that to which we have been accustomed. In the light of the pathology of to-day we cannot accept as a definition of scrofula that it is "a tendency in the individual to inflammations of a peculiar type, the distinctive features of such inflammations being as follows: they are usually chronic, apt to be induced by very slight irritation, and to persist after the irritation that induced them has disappeared."* In spite of the attempts of pathologists to give a definite meaning to the term, no one will deny that the word scrofula has been used to designate most of those diseases whose pathology was a chaos of confusion, and that Henle's description of it was well merited, that "scrofula is the receptacle into which one vaguely casts all the ailments which afflict children under fourteen years, and of which we do not know the cause." In discussing, then, the true nature of scrofula, it will be interesting to review shortly its history, and to trace the lines which have led to our present state of knowledge concerning it.

The term was originally given to the disease by the Romans in order "to give prominence to the similarity presented by the thickened neck, the diminished prominence of the chin, and the swelled upper lip—all consequences of the swellings of the glands—with the physiognomy of the hog." In the sixteenth and seventeenth centuries the resemblance between the caseous masses found in the lungs in phthisis and in scrofulous lymphatic glands in the neck was observed, and Cullen, amongst others, began to range phthisis in the list of scrofulous diseases. "The views generally held at that period on this question," says Birch-Hirschfeld, "may be summed up in the sentence that scrofulosis reigned supreme over the domain of tuberculosis, tubercular phthisis itself being looked upon as a scrofulous disease." Laennec heralded a new epoch. Tubercle now became the chief factor, and all processes in which cheesy substance was found were classified with tuberculosis, scrofulous glands being considered only as a small subdivision of tubercular disease. But at this time little was known as to the nature of tubercle itself. The term was applied to nodules, but it had little other significance. Laennec pointed out that these nodules, originally grey and clear, had a tendency to become opaque and yellow, or, in other words, to caseate. Thus, in the lung two distinct conditions were found, the grey tubercle and the yellow, the latter being, however, the result of certain changes in the former—that is to say, the grey tubercle had a tendency to caseate in its centre, and by the fusion of several of these, larger caseous masses were formed, which went by the name of yellow tubercles. The identity of scrofulosis in the glands of the neck and of tuberculosis in the lung was then again called in question, when Virchow came forward and demonstrated that this cheesy substance was not necessarily due to decay of the grey nodules, but might occur in the most heterogeneous tissues. Tubercle was now restricted to the grey, semi-transparent nodules, the size of a millet-seed, hard and firm, which have since been known as miliary tubercles; although these, from their want of blood-vessels and their low organization, frequently tended to cheesy metamorphosis. Virchow accordingly laid down that no cheesy product was to be accepted as tuberculous unless sufficient evidence had been given of its origin from miliary tubercle. Such evidence was not at that time forthcoming in respect to the cheesy masses found in scrofulous glands; hence scrofulosis was not to be considered as a form of tuberculosis. Virchow went even further, and the cheesy infiltration of the lung, called "tuberculous" by Laennec, was not tubercular at all, but should be termed "scrofulous broncho-pneumonia." But even this position of the question was not destined to remain long unassailed. Microscopists turned their attention to the study of the so-called grey or miliary tubercle. That it was the ultimate specific cause of tuberculosis began to be doubted, as certain tissue changes, which were acknowledged to be due to tuberculosis, were found to occur sometimes, in which these distinct grey tubercles could not be discovered. In such instances the microscope revealed certain minute bodies, to which the name "submiliary tubercules" was given, and it was then shown that the millet-seed bodies, termed miliary tubercles, were made up of a collection of these microscopic nodules. This submiliary tubercle, called by Köster "primitive or elementary tubercle," is composed mainly of cells. In the centre of a typical specimen we find one or more giant cells. Forming a zone around this are many so-called epithelioid cells, and around these again is a zone of leucocytes. "All these cell elements are supported by a fine reticulum, which is generally concentrically arranged at the periphery, and towards the centre is observed to be continuous with the processes that commonly come off from the giant cells. The affected district is non-vascular."† This is the description of "primitive tubercle" as we understand it to-day; but it must not be supposed that this accurate histological account of it was received without much opposition. Indeed, it would seem that in its earlier days pathologists were so engaged in their conflicts concerning it that the fight over the identity or non-identity of scrofulosis and tuberculosis remained for many years in the position in which it was left by Virchow. During this period of dormancy caseous or cheesy nodules were looked upon as the products of the degenerative changes which followed on scrofulous inflammation. There was nothing specific in them.

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* Treves: Scrofula and its Gland Diseases, p. 37. 1882.

† Treves, op. cit., p. 9.

But this controversy on scrofulosis was only dormant, and it broke out with renewed vigor in the years 1865-69. A new method of attacking the question was instituted by M. Villemin. Anatomical and microscopical methods gave way to the method of inoculation, and Virchow's ground was cut from beneath his feet. These inoculation experiments showed two things—firstly, that if the cheesy matter from scrofulous glands were injected into an animal, it produced general tuberculosis as readily as tuberculous matter; and secondly, as shown by Wilson Fox, that if tuberculous matter were introduced beneath the skin, it gave rise to enlarged caseous and suppurating glands—in fact, to all the symptoms of a localized scrofula. The conclusion to be drawn from these experiments seems obvious—namely, that these local manifestations of what was termed scrofula were in reality tubercular, and that if any difference could be made out between these terms, it could only be one of degree. Such a wholesale subversion of Virchow's views, which had taken possession of pathologists for several years, could not naturally be accepted without dispute. The experiments themselves were largely discounted, and it was maintained that, as the so-called acute general tuberculosis, which was described as following on inoculation, occurred in "animals," it was not the same as general tuberculosis in man. It now became apparent that it was more necessary than ever to understand the histological characters of true tubercle, to distinguish it from simple inflammatory neoplasms, and to determine whether the giant cell, with its external zones of epithelioid cells and leucocytes, was pathognomonic of tubercular diseases. In 1870 Wagner prepared the ground for a more accurate knowledge of the microscopical characters of these primitive tubercles, and the more complete elucidation of their differences from simple inflammatory neoplasms, made almost immediately afterwards by Schüppel, established their distinctive character. With this definite idea as to the true characteristics of tubercle itself, he proceeded to combat Virchow's views, taking for his text Virchow's own dictum that no cheesy product was to be accepted as tuberculous unless sufficient evidence had been given of its origin from miliary tubercle. This missing link was now supplied. "This demonstration," says Birch-Hirschfeld, "has been furnished by Schüppel's numerous and searching investigations to such an extent that no further doubt is left as to the frequent occurrence of well-characterized tubercles in the lymphatic glands, partly in the form of secondary development with pre-existing tubercles of other organs; partly, however, as primary tuberculosis, to which latter category belong those very conditions which have been regarded heretofore as the most characteristic products of scrofulous disease." Friedländer goes a step further when he states that "all the more important scrofulous affections are intimately associated with the formation of tubercles." From this period the number of diseases in which tubercle was discovered went on increasing year by year. Köster, in 1869, found them in the so-called granulations in "white swelling." In 1879 Volkmann demonstrated that "white swellings" were nothing but tubercular osteoarthritis, and that they owed their origin most frequently to a focus of tubercle in the epiphysis. In 1881 Lannelongue showed in his work on cold abscesses that the walls of the sac were studded with tubercles; and in 1883 Kiener demonstrated the identity between caries and tubercular osteitis, and showed that this specific osteitis may assume either the encysted or diffused form. The advocates of the identity between scrofula and tuberculosis seemed thus to be triumphing along the whole line, when a new difficulty arose. The giant cell, with its peculiar arrangement of cells around it, was declared not to be pathognomonic of tuberculosis. In 1875 Ziegler showed that it was found in inflammation artificially produced by inserting two little glass discs beneath the skin or in some of the cavities of the body in dogs and rabbits, and M. Martin obtained them around other irritating particles, or by introducing micro-organisms into the circulation. The question was thus again an open one, and stood thus: inoculation experiments had crowned the proof, afforded by anatomical and clinical observations, that scrofulosis and tuberculosis could not be separated, but hitherto there was no peculiarity of the structures which was pathognomonic of tubercle as a specific element. The infective nature of tuberculous and scrofulous matter alike was established, but the *materies moræ*, the virus itself, had not been recognized. Such, briefly, may be said to have been the point reached up to the spring of 1882. We all remember the sensation which was caused, not only among scientists, but in the world at large, by the announcement by Koch, in March of that year, that he had discovered the bacillus of tubercle; that he had succeeded by the method of double staining with aniline dyes in demonstrating the existence of the microbe; that by cultivations on solid media he had isolated it, and that by inoculations of the pure cultivations in animals he had proved its virulence. Whatever doubts may have been at first thrown upon the discovery, whatever skepticism may have been at work to detract from it or to prove it false, all have disappeared, and there are few who to-day will deny that Koch's bacillus is the active agent in the production of tubercular diseases, wherever they are found or in whatever guise they appear. Virchow's statement that no cheesy product was to be accepted as tuberculous unless sufficient evidence had been given of its origin from miliary tubercle must now be modified and enlarged. In place of it we may assert that all inflammatory products, whether in the stage of cheesy degeneration or not, in which the bacillus of tubercle can be demonstrated, are to be accepted as tuberculous. At the same time we must remember that their absence is not conclusive evidence against the tuberculous nature of a diseased part, as in certain stages of a tuberculous mass the bacilli may disappear. What assistance this discovery has afforded to the physician, or what influence it has had upon his art, is not my object to discuss. For the surgeon it has opened up new fields of labor, and has had a most powerful influence on his work. "The sphere of tubercular diseases," writes Volkmann recently, "with which the surgeon has to do has increased so enormously during the last fifteen years, insomuch as a great number of diseases with which he has to deal day by day are recognized to belong to tuberculosis, that, I say, the surgeon has now almost more to do with this disease than the physician."

Addressing as I am the surgical section of this Academy,* let me call your attention to the enormous advantage which the surgeon possesses over the physician in the treatment of tubercular diseases. The diseased tissues are, or can be, exposed to view; frequently it is in the surgeon's power to remove the whole tuberculous patch, and with it the tissues in the immediate neighborhood, while the patient still lives, and his opportunities for doing so, and the organs that are accessible to him, are increasing year by year. Now, in order to establish a disease in any organ as being undoubtedly tubercular, Volkmann enumerates three conditions as co-existing. Firstly, the well-known structural condition, which has been styled "true tubercle"; secondly, the presence of the tubercle bacillus; and, thirdly, the positive results yielded by inoculation experiments. When these three conditions are verified in any diseased part, it cannot be questioned that the affection is one of true tuberculosis. This criterion has been applied to a large number of diseases, and has given positive results. I cannot now do more than enumerate a few of those diseases with which we are familiar under other names, but which henceforth must be classed as tubercular. On the skin we find lupus and certain ulcers, which have commonly been classed as scrofulous; similar conditions of the mucous membranes, and frequently fistula in ano; in the deeper structures most forms of chronic abscesses, especially those associated with scrofulous glands, diseased bone, etc.; and in diagnosing these abscesses the so-called pyogenic membrane is of great use. "The characteristic abscess membrane," says Volkmann, "occurs only in connection with tubercular abscesses, and it must be looked upon, therefore, as an absolutely safe criterion for diagnosis." All those forms of disease of the bones and joints which have hitherto been described as caries, Pott's caries, white swelling, strumous or scrofulous disease of the joints, fungous degeneration, and so forth, belong also undoubtedly to tubercular infection, and the same is true whether the disease originate in the epiphyses of the bones or in the synovial membrane. Lastly, of all parts of the body in which positive proof of the existence of tubercle has been given, the lymphatic glands are most frequently engaged, because their very function exposes them to infection. Under the head of tubercle we must range all those affections of the glands which have hitherto been termed scrofulous enlargement, strumous disease, and caseous degeneration—in fact, by far the larger number of cases in which we find the glands of the neck enlarged.

My excuse for having gone at some length, and yet as briefly as I could, into the pathological aspect of the subject, must be that upon our view of the question in this light the further question of surgical treatment is based; and also that in most of the works in our own language the tubercular nature of the disease is not recognized sufficiently. In support of this assertion I will quote a few passages from some of the more recent surgical works which deal specially with the subject of scrofula and tubercle. In the first volume of Ashhurst's "International Encyclopædia of Surgery," p. 242, in the article on Scrofula and Tubercle, written by Mr. Butlin, and published in 1882, he thus speaks of the morbid anatomy of scrofula: "There is not in scrofula, as in tubercle, a pathological body, either microscopical or of larger size, peculiar to the disease. All the changes are those of inflammation; but the products of scrofulous inflammations may be analyzed, chemically and histologically, without the discovery of any substance or structure which may not equally occur in any, or indeed in every, inflammation." This was no doubt written immediately before Koch's address before the Physiological Society of Berlin, but it does not even represent the position of the question as it stood for several years prior to the discovery of the bacillus. The identity of the two diseases had been fully recognized by leading pathologists, as I have endeavored to show; the only question waiting for solution being, "What is tubercle?" Again, in Mr. Treves' work on "Scrofula and its Gland Diseases," published also in 1882, p. 20, after giving the evidence for and against the identity of these diseases, he proceeds to discuss the value of the inoculation experiments, especially with respect to the conclusions drawn from them by M. Villemin. He then makes almost a pathetic appeal in favor of scrofula and its future distinctive existence. He says: "But even now some pathologists still advance the opinion (which I give in the words of M. Villemin) that 'tubercle alone gives tubercle by inoculation.' Those who retain this view are compelled to exclude from scrofula all its classical features: the caseous gland, the cold abscess, osteitis, periostitis, and 'white swellings'; and all that they can leave for the disease are a few superficial lesions, the products of which will in time be probably found to be inoculable, and then, for M. Villemin and his followers, scrofula will be an extinct disease." Well, terrible as the alternative is, we must face it; and as we must now hold that "tubercle alone gives tubercle," and that, as the bacilli from scrofulous lymphatic glands, when inoculated, give rise to tubercle, we must also hold that scrofulous lymphatic glands are tubercular; Mr. Treves will have to accept his alternative and acknowledge that scrofula as a distinct disease, has ceased to exist. Let me cite another extract, one from Dr. Clifford Allbutt's lecture on "Scrofulous Neck," as it illustrates the dawn of the tubercular aspect of the disease in these countries. He says in his lecture, published last year, p. 12: "Our knowledge of the tubercle bacillus is as yet too young to tell us whether scrofulous neck always depends upon the introduction of the tubercle bacillus by way of the mucous membrane of the throat or otherwise—too young, indeed, even to tell us whether the tubercle bacillus is an essential part of scrofulous neck at all. We know that it may be found there, and that scrofulous neck has of late years been regarded as morphologically tubercle, so that we are safe at least on the broad postulate that inoculation from sources of corrupt or caseating pus does very commonly set up a more or less generalized tuberculosis." I do not wish to assert that every enlargement of the cervical lymphatic glands is tubercular. We eliminate, in this discussion, those forms of adenitis which are associated with various infectious and simple inflammatory processes; we omit the so-called rheumatic bubo which appears in otherwise perfectly healthy individuals, without discoverable cause, most frequently in the axillary and inguinal glands, and which often terminates in suppuration. In fact, only those affections of the gland are here discussed to which the term scrofulous is usually applied, and these, we assert, are due to the specific action in them of the tubercle bacillus. The diagnosis in the early stage is extremely difficult, indeed sometimes impossible, between the tubercularly infected gland and the simple form of adenitis which results from some local irritation. Thus the glands in the neck may enlarge from the irritation caused by a carious tooth, or an attack of tonsillitis, or a simple cold. But as the irritating cause disappears the swollen gland will subside, though sometimes it takes a long time to do so. But in the tubercular gland it is quite otherwise. The irritating cause may disappear or have been so slight as to escape notice, but the infected gland remains stationary for a time or continues to enlarge, and presently we find other glands following in its wake, and enlarging too. In the early stage our only means of diagnosis is to wait, and what was at first obscure will soon be cleared up by the future progress of the case.

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Now, to understand the process of infection in the cases referred to, we must for a moment look at some of the characteristics of the bacillus itself. It cannot develop in a temperature below 86° or above 106°; therefore, outside an animal body it cannot grow in this climate. Inside the body it grows and multiplies. A bacillus takes a month to reach its fullest development. It multiplies by fission, and by the formation of spores. These spores are much more resistant than the bacillus itself. Drying the bacilli or the spores does not destroy them. It is not therefore difficult to understand how easily the infection may spread. The sputa of phthisical patients, for example, swarm with them. When these sputa dry, the bacilli and their spores, in a dry but active state, are scattered far and wide in the air, and may come in contact with a suitable soil whereon to develop. An ordinary healthy individual does not present this soil. The bacilli may be inhaled into his lungs, may be swallowed with his food or mixed up in his saliva, they may even lodge on some abraded mucous surface, and yet may do no harm. The antiseptic power of healthy living tissue is fully recognized. But there is undoubtedly some defect of constitution, some "vulnerability" of the tissues which we do not understand, which furnishes a fruitful soil. Call scrofula, if you will, the peculiarity of the soil on which the bacillus grows; but the seed itself and its growth, and the manifestations of its development, let us call tubercle. We shall thus have clear ideas, at least, as to what we mean; we shall not continue to confound together the soil, and the seed which grows on it. Now, look at the behaviour of the bacillus when once it finds a local habitation congenial to it. As I have said, a bacillus requires nearly a month for its full development, and shows hardly any signs of growth under a week or ten days. During this period they may be cast off in the bronchi by the action of the cilia; in other regions they may be expelled with the secretion of the part. But suppose they gain an entrance through some abraded part—they are taken up by the lymphatic vessels and carried to a neighboring gland, or they may develop in the tissue where first they found a resting-place. In the case of the glands in the neck, we can generally trace the history back to some such local infection. Thus a child suffers from eczema of the head, and the child is of a delicate constitution; we are told it is scrofulous. Or, the child has a purulent otorrhœa or ulcers in the mouth, or it suffers from a discharge from the nose. Later on, a gland in the neck, usually only on one side, enlarges. Or a young adult, and sometimes even one more advanced in life, suffers from a cold, from an attack of tonsillitis, or from enlarged, sometimes caseating, follicles in the pharynx (and I have not infrequently traced it to this cause); and even after this ailment has subsided, and is perhaps forgotten, a gland, or more, begins to swell. Long after the exciting cause has ceased to act, the gland either remains *in statu quo*, hard, nodulated, movable, or it may develop rapidly all the series of phenomena which are known as scrofulous. Other glands enlarge, and frequently we find all the glands on one or on both sides of the neck sharing in the process. This whole series of events is explained by what we know of the behaviour of the tubercle bacillus. By some such channel as I have mentioned the bacillus enters; it is taken up in the lymph streams, and is arrested by the first lymphatic gland it meets. In such cases too much importance cannot be attributed to the functions of the lymphatic glands. They act as defensive outposts, as filters to free the lymph of infective and deleterious matters which it may contain, but in doing so they themselves suffer. In process of time the bacillus grows within them, multiplies, and gives rise to the formation of true tubercle. These tubercles become yellow in the centre, they coalesce, and in process of time form a caseous mass. At this period one of three things may happen—in other words, the gland may follow one of the proverbial "three courses." First, it may get well, though this is not a frequent result. Secondly, it may suppurate,* make its way to the surface, and discharge its contents, and this may end in cure. Or, thirdly, it may extend, infecting gland after gland. Even here, too, nature may accomplish a cure by a slow process of successive suppuration, which may eventually eliminate the disease. But should nature fail to do so, the last gland between the bacilli and the general circulation may become infected, the last outwork of defence may be carried, and then the whole system is exposed to general infection, and a more or less acute general tuberculosis results. But what is to determine which of these three courses shall be followed? It seems to depend on one or other of two factors: firstly, on the number of the bacilli which have gained access to the gland; secondly, on the constitution of the patient. Koch has shown that it is of the greatest significance whether the infection be produced by a few bacilli or by a large number. In his inoculation experiments, he found that a large number of bacilli, after first producing a diffuse caseous infiltration, both at the site of injection and in the neighboring glands, gave rise rapidly to general tuberculosis. If the number of bacilli introduced were smaller, the length of time which preceded general infection became longer; and when the bacilli were few, this period might be very long, or in some cases generalization might not occur at all. In spontaneous tubercular infection in man the dose is usually small, though sometimes it is often repeated; and hence it is that in tuberculosis of the glands in the neck general infection of the system most frequently does not occur. The constitutional condition of the patient plays a part only second to the strength of the dose received. I have already alluded to the fact, recognized by all, that a certain state of the system, a certain constitutional susceptibility, is necessary, in order that an individual may contract tubercular disease—that is, that every person does not offer a suitable soil for the growth of the bacillus. What is equally true is that persons may possess this vulnerability in different degrees, and, moreover, that the same person does not afford at all times the same suitability of soil. Clinical experience has taught us this over and over again, and upon these axioms are based all our constitutional methods of treatment, the importance of which in every case cannot be over-estimated. In every case, whether we adopt surgical measures or not, we should aim at so improving the health of the patient by those means, which it is not in the scope of this paper to discuss, that to the best of our ability we shall put him into a condition to contest successfully with his unseen foes.

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*This suppuration is not a necessary result of caseation, but is probably due to the entrance of some form of micrococcus by the same or some other channel as that by which the bacillus entered.

Taking, now, these two factors, we see that even when a gland has become infected we may hope for spontaneous resolution, provided that the infecting dose has been small, and provided that the patient's constitution has so improved that the gland tissue is healthy enough to cope with the bacillus. Now what do we observe in such a case? The bacilli gradually disappear from the caseous mass, and may not be finally found at all, and the broken-down tissue may be absorbed, or it may calcify, and recovery ensue. This is, unfortunately, a rare occurrence. But supposing these factors are not sufficiently strong to bring about such a desirable end, the patient may eliminate the disease by a process of suppuration. The caseous masses in the gland—and they are usually multiple—begin to show evidence in the centre of suppuration. This may go on to a considerable extent before any external symptoms of suppuration appear. So that because a gland is hard and movable, and is not tender to touch, we cannot assume that that gland does not contain many central abscesses of small size. Gradually these abscesses coalesce; the gland becomes tender; it enlarges more and more; inflammation extends to its capsule and to the neighboring parts, and soon adhesions form. By slow degrees the skin over it becomes involved; it becames firmly adherent; it thins; the abscess opens and discharges, and a sinus is left, which may, and generally does, keep open for weeks or months, discharging a thin pus with cheesy matter contained in it; and when it heals it leaves behind it an ugly and disfiguring and puckered scar. But, even so, the patient is well quit of his disease. More frequently, however, the bacillus has made its way into neighboring glands. One by one these enlarge, and the same slow process of suppuration begins; another sinus forms through unhealthy purplish skin, and another scar is left; and the cycle is repeated till the whole neck is seamed and unsightly. Is not this a true picture of the disease, and one with which we are too commonly familiar? If more were needed to paint it in its true colors, let me give it in the eloquent words of Dr. Clifford Allbutt: "That the ugly finger of scrofula should be laid chiefly upon children, young men, and maidens, has this pathos in it, that it disfigures them at the spring-time of life—at that time when hope and promise make all life precious, and all death seem the loss of untold treasure; when beauty and gaiety have their fleeting day, and for the loss of them the world is poorer."

But even while this local process of decay is going on, the general system is not safe from its ravages. As long as these caseous masses of tubercle exist in the body, so long must we ever bear in mind that the danger of generalization is possible. But even if we were sure that by repeated and prolonged suppurations the danger of extension were removed and the bacilli expelled, the scarring of the neck is not the least consequence which may follow. Remember that this disease would never have originated but for a peculiar constitutional susceptibility. Will that susceptibility be diminished by months or years of suffering? Will it not rather be enormously increased? During this period "septic matters are absorbed into the blood, recurrent and variable hectics dissipate the appetite, flesh, and strength, so that the patient finds himself at the end of it all, if not unsound in his internal organs, at any rate a far worse man than he would have been had this trial been spared him." Let him become again exposed to tubercular infection, let him breathe impure air impregnated with tubercular poison, and who shall say that he will escape with healthy lungs? It is believed by some that in subjects predisposed to scrofula the involvement of the glands in youth affords them some sort of protection against phthisis subsequently. But this view cannot be upheld. Only the other day a girl came into the hospital with extensive disease of both lungs, and her neck was seamed with old scrofulous scars. The worst case of tuberculous glands in the neck I ever saw was in a girl who died of phthisis.

Such then, being the nature of these so-called scrofulous glands, and such the consequences which we have to face, I think I am justified in asserting that the time has come when the treatment of this disease, except in its earliest stage perhaps, should pass from the domain of the physician, and should be entrusted to the surgeon. In the earlier stage, while still the diagnosis remains uncertain, the treatment is one of expectancy, tempered by constitutional measures. But when once the diagnosis is assured, and there is no evidence that resolution is likely to take place, bearing in mind the nature of the disease we have to deal with, and the consequences which may follow from waiting too long, I am strongly convinced that the surgeon's art should intervene to assist Nature, and to do that quickly, which unassisted she would do if she could, but often fails in accomplishing, or only succeeds when her victory has cost her dear. When as yet the poison has infected but one or two glands, we have good grounds to hope that by their removal we may eliminate from the system every focus of infection. Every case is not suitable for the same method of treatment, and in some cases we have little choice left to us as to what method we shall adopt. Of all the various surgical methods at different times suggested, there are three which I shall specially refer to as being the best. Each one is applicable to a different class of cases, and although they have been applied indiscriminately by their special advocates, I think there are well-marked lines which should divide those cases in which a special method is applicable from those in which it is not. These three methods are (1) scooping, (2) cautery puncture, and (3) excision.

Of the first method—scooping—I need say but little, as the subject has been very fully and ably discussed in a lecture by Mr. Teale, which was published last year. I shall merely quote a few of his conclusions, with which I entirely agree. 1. "That surgery can secure the healing in a few weeks of gland cavities and sinuses, even though they have existed for years, and of wounds resulting from the removal of caseous and suppurating glands." 2. "That in dealing with sinuses, gland abscesses, and decayed or semi-decayed lymphatic glands, the action of the surgeon must be vigorous and thorough." 7. "That in dealing with a sinus the channel should be enlarged by the knife or by Bigelow's dilator, and the whole of its granulating surface should be scraped off. Where a sinus is shallow and covered by thin blue skin, this imperfect covering should be rasped away by the scraper, and any cutaneous overhanging edges should be trimmed off by the scissors." 8. "That, in dealing with a sinus or an abscess, the surgeon should not rest content until he has discovered and eradicated the gland, always remembering that if it be not obvious there is sure to be a small track leading through the deep fascia to the missing gland. This opening should be enlarged so as to admit the spoon of Lister's scraper." These conclusions which I have quoted explain the classes of cases to which, I think, this method is suitable, and to which I believe, it should be restricted. These classes embrace cases in which sinuses exist, or in which a superficial abscess communicates through an opening in the cervical fascia with a suppurating and caseous gland beneath. It is also sometimes a good treatment to adopt when the changes going on inside a gland have given rise to inflammation of its capsule and to the formation of firm adhesions between it and its surrounding tissues. In these cases enucleation of the entire gland is extremely difficult. I have employed this method in many cases, and my experience of it has strongly impressed me with the belief that the classes of cases I have mentioned are those to which the method should be restricted. For in all of these cases the method of excision is fraught with too much difficulty to authorize us to adopt it in preference to this apparently simpler plan; but, on the other hand, it should not be extended to cases in which enucleation can be readily performed, and for this reason. In most of these tuberculous glands, the gland capsule shares in the disease, and in the scooping operation this is necessarily left behind;

moreover, there may be, and there frequently are, enlarged and tuberculous glands in the neighborhood, which have not yet softened. These escape the spoon, and later on become the foci from which fresh infection starts. Of much less importance is the fact that the incision after enucleation seldom takes more days to heal than that after scooping takes weeks. On these several grounds, I hold that the scooping operation should *only* be done in those cases in which excision is inapplicable.

The second method of treatment is that by cautery puncture. It has found its chief advocate in these countries in Mr. Treves, and it has also found much favor in France. Mr. Treves expresses the opinion that it is "one of the very best operative measures at the disposal of the surgeon for the cure of scrofulous glands." He thus describes it:—"In this operation I make use of a thermo-cautery point about as thick round as a No. 7 catheter. This point, having been heated to a bright-red heat, is thrust through the skin into the substance of the gland, and passed in three or four directions in the body of the tumor before it is removed. * * * If no pus or cheesy matter follows the removal of the iron, a simple zinc dressing may be applied, but if any such matters escape, then a poultice should be ordered. * * * It is more adapted for adherent than for movable glands." This method I have lately employed, and in certain cases I think it should be productive of good. Its *modus operandi* would seem to be that the intense heat destroys the tubercle bacilli and their products, and it leaves a channel for their escape externally which does not allow of extravasation into the neighboring cellular tissue. It seems to me that in softened adherent glands it would probably be more effective than the method of scooping.

The third method of dealing in a radical manner with these tuberculous glands is by excision. It is specially suitable in those cases where the glands are not adherent. The operation is easier the harder the glands are—that is, the less advanced they are in the process of suppuration. The great advantages I claim for this method are that we can in most cases entirely remove all the affected parts, including the capsule of the gland. The wound is a clean incision, mostly through healthy skin, and therefore, with strict antisepsis, heals by first intention, and leaves a scar which in process of time becomes white and often unnoticeable. When the glands are non-adherent, they can be enucleated with great ease. On the 8th of this month, through an incision an inch and three-quarters long, I removed eight glands, three as large as walnuts, and all of them caseous. Seven days after the wound was healed, and the scar even then scarcely noticeable. But when the tubercular process has been allowed to run its course for a long time, and adhesions have formed, then the real difficulty is experienced, and often a tedious dissection is required before the diseased glands can be removed. And here let me say that this difficulty is often of our own making. We meet a case in which two or three glands in the neck are swollen and hard. A careful inquiry into the history of the case will satisfy us that the glands are scrofulous. But instead of dealing with them at once, we allow the disease to spread, more glands to become infected, and adhesions to form, whilst we wait. Wait for what? To try the effects of this or that external application, painting with iodine, or a host of other remedies, which experience should have taught us in that stage are no remedies at all. Sometimes the delay is due to our unwillingness to make a cut which may leave a scar, and then nature takes the matter in hand, the gland softens, an abscess forms, and the end of it is that a far worse scar is left than would have resulted from timely intervention. Besides, all this time other glands are preparing to go through the same process. Such things ought not to be. What I maintain is, that the earlier we attack these glands the less we shall have to do, and the smaller and more insignificant the scar will be; and, what is more important still, the focus of the disease may be got rid of through quite a small opening. Often, however, we have at least this satisfaction, that we cannot blame ourselves if the disease has become extensive. It may be so when first we see the patient, but even in the most extensive cases of scrofulous glands we may hope for a cure by surgical art. I have notes of fifteen patients from whom I excised tuberculous glands. Two were operated on twice and two three times, making in all twenty-one operations. Some of these were comparatively simple cases, two or three glands only requiring removal. Some of the cases were most extensive, and of these, three present points of special interest.

The first case was that of a boy aged seventeen, whose neck was enormously swollen on the right side, owing to the enlargement of the glandulæ concatinatæ and sub-maxillary glands. I operated on him twice. The first time was on June 12, 1883. A curved incision, about four inches long, was made behind the sterno-mastoid muscle, and all the enlarged glands removed. They were all caseous, several presenting centres of suppuration in the middle of the cheesy masses. I mention his case because he was attacked with erysipelas three days after operation. The erysipelas began low down on his back, spread gradually over his whole body, with the exception of the parts underneath the antiseptic dressings. This part remained healthy throughout, and the wound healed well. Some months after I removed the submaxiliary glands. A similar mishap occurred in a second case, but both made perfect recoveries.

The second case I wish to mention was that of a married woman, aged twenty-three, who presented a long chain of glands extending from behind the left ear to the clavicle. They were movable and hard in the upper two-thirds, but below they were soft and suppurating. I excised them all at one operation on April 3, 1884. The abscess cavity was scraped out, and a drainage-tube inserted through a counter-opening close to the clavicle, the wound being itself completely closed. The dressings were not disturbed till the seventh day, when the wound was quite healed. The drainage-tube was removed, and the sinus was completely healed on the fifteenth day. She left hospital three days later. I saw her again a few months ago, a year and three-quarters after operation. There were no more enlarged glands, and the incision was reduced to a fine white pliant scar.

The last case to which I shall refer is that of a girl aged eighteen, who was studying to become a schoolmistress, but was rejected on the ground of health, as the left side of her neck was bulged out with a large number of swollen glands. She was greatly disfigured. I operated on the 29th of April, 1884. The incision reached from the mastoid process to within an inch of the clavicle. All the superficial and deep glands were involved, those lying underneath the sterno-mastoid muscle being very difficult to enucleate. I removed in all forty-eight glands at this operation. She made a slow recovery, but a good one. I saw her the other day, nearly two years after operation. There is a long scar, but it is soft, white, and flexible, and she can so arrange her hair as to make it almost imperceptible. She is in excellent health, and has had no return of the disease: in fact, as we might expect, it is not possible to feel any glands in that side of the neck. I mention this case especially as showing that excision can be safely done, even in such an extreme case.

Before concluding this paper, there is an objection which I should like to answer—an objection which I have heard raised, especially in regard to these extensive operations; and it is this: Is it not a very serious matter to interfere to any great extent with the lymphatic system in the neck? That objection is entirely theoretical; I have not seen in any of the cases on which I have operated any evil consequence referable to this cause. Besides, we must bear in mind that caseous glands are, to all intents and purposes, functionally destroyed. If there is any reason in the objection at all, the blame must be left at the door, in the first instance, of the tubercular affection; and, secondly, at the door of those, be they doctors or patients, who allow the disease to progress to such an extent—a disease which, I trust, I have shown can be arrested in its early stages by the timely and judicious intervention of surgical art.—*Lancet.*

RESUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

CHRONIC CATARRHAL GASTRITIS.—Inaugural Address Delivered Before the Association of American Physicians, Washington, June 17.—By Francis Delafield, M.D., New York.—(*Boston Medical and Surgical Journal.*)

I.—LESIONS.

Whether we consider the cases which are found at autopsy in the Hospital Dead House, or the cases seen during life in private practice, it is evident that in the majority of persons the inflammation goes no further than to affect the function of the mucous glands. They constantly produce a thick, tenacious mucus, which adheres in a thick layer to the surface of the mucous membrane. Less frequently the mucus is thin and fluid, and is vomited. With such a change in the mucous glands, the peptic glands may also give evidence of disordered function. But it is important to remember that unimpaired gastric digestion is perfectly compatible with chronic catarrhal gastritis.

Anatomically in such a gastritis the only changes which we find are an increased quantity of mucus, sometimes congestion of the blood-vessels, sometimes pigmentation, an enlargement of the mucous glands, some swelling of the stroma, with a little infiltration of pus cells.

Less frequently we find more advanced changes. The connective tissue between and beneath the mucous and peptic tubules is increased in quantity, and the tubules are deformed and destroyed. Polypoid tumors may project inwards. The muscular and connective tissue coats may be thickened. There may be stenosis of the pylorus. The stomach may be contracted or dilated. Or, without any increase of connective tissue, the walls of the stomach may be relaxed and its cavity dilated.

Chronic catarrhal gastritis may, therefore, mean:

1. That the mucous glands produce too much mucus.

2. That, in addition, the functions of the peptic tubules are affected.

3. That the structure of the mucous membrane is so profoundly changed that its digestive functions are anatomically impossible.

4. That from relaxation of the muscular wall, or stenosis of the pylorus, the food is not entirely discharged from the stomach, but portions remain there.

ETIOLOGY.

The ideas which one has as to the causes of chronic catarrhal gastritis will vary somewhat, according to the experience of the hospital autopsy room, and the character of the cases observed in private practice.

In the autopsy room, we find more of the cases associated with complicating diseases, or exhibiting the very advanced lesions of gastritis. Organic disease of the heart, emphysema of the lungs, cirrhosis of the liver, Bright's disease, phthisis and alcoholism, are evidently, in most of the cases, the causes of the gastritis.

In private practice, on the other hand, I find most of the cases in adults between the ages of twenty and fifty, a smaller number in children and old persons.

In the majority of the cases no cause is to be discovered but the mode of life and the character of the locality in which the patient lives. The same climatic conditions which predispose to chronic naso-pharyngeal catarrh and chronic bronchitis have the like effect as regards chronic gastritis. In a smaller number of cases other causes can be discovered.

An attack of acute gastritis, or of gastro-duodenitis, or of gastro-enteritis, may be followed by chronic gastritis. Typhoid fever and the malarial fevers may be accompanied by an acute gastritis, which later assumes the chronic form. In some women the disease seems to begin during pregnancy.

Alcoholism and the abuse of drugs furnish their quota of patients. Rheumatism and gout are sometimes unquestionable causes. Cirrhosis, Bright's disease, emphysema, phthisis and cardiac disease also furnish a certain number of cases.

SYMPTOMS.

First among the symptoms comes pain, varying from a mere feeling of oppression and discomfort to the most severe and agonizing pain. Most common is the feeling of uneasiness and discomfort, either following the ingestion of food, or when the stomach is empty. It is not always easy to distinguish this from pain belonging to the small intestine or the colon. Much worse is the severe pain due, in some cases, to the presence of food in the stomach—a pain often followed by vomiting; at first only coming on when the stomach contains a considerable amount of food, but later, continuing even after repeated vomiting, so long as the smallest fragment is left—a pain so severe that the unfortunate sufferer has no rest by day or by night, deprives himself of almost all nourishment, and finally falls a victim to the opium habit.

Nausea and vomiting are also regular symptoms. The nausea belongs to the early morning hours. The vomiting is most frequently a vomiting of food, either in considerable quantities, or vomiting kept up so long as the smallest particle of food is left in the stomach.

In other cases, large quantities of brownish fluid mixed with mucus and food accumulate in the stomach, and are vomited from time to time. This is especially the case when the stomach is dilated.

Vomiting of pure mucus is seen in a few cases. Vomiting of blood, usually not in large quantities, may occur. Regurgitation of acid fluid in the morning belongs especially to alcoholic gastritis.

Retention and fermentation of food in the stomach are most common with the dilated stomachs, but are by no means confined to them. They are found often enough with other cases of chronic gastritis.

Constipation seems, in some cases, to depend directly upon the gastritis, and will disappear as this improves, without the use of any laxatives. In the same way, there are diarrhœas which can be cured by treatment directed to the stomach.

Headache is often a symptom. It may follow a variety of types, but perhaps the most common is that which comes on at intervals.

A general loss of health, of which emaciation and loss of muscular strength are the most prominent features, is found with the worst cases of the disease. Inflammation of the tongue, and a variety of abnormal sensations referred to the throat, mouth, and tongue, belong to some of the cases.

These are the most marked symptoms which may be referred directly to the gastritis. In the complicated cases, of which there are many, other symptoms are added, which is not necessary to consider at the present time.

The course of the disease is naturally prolonged over many years, and interrupted by periods of improvement. The symptoms come on in attacks, at first not severe nor of long duration, and easily relieved in a number of ways. As the disease continues, each succeeding year marks a greater severity and longer duration of the symptoms. In some of the patients the disease never advances further than to make them uncomfortable during a part of each year. In others, the general health is disturbed, they are unable to work, and become miserable, chronic invalids. In others the excessive pain drives them into the morphine habit, while in a few cases the gastritis causes death.

TREATMENT.

In attempting to establish a satisfactory treatment for chronic gastritis, it is important to state as clearly as possible the problem which is to be solved.

First, then, we must remember that all the patients who suffer from gastric symptoms do not necessarily have chronic gastritis.

Besides those who have functional disturbance of the stomach, or cancer or ulcer of the stomach, we find many others in whom gastric symptoms are due to diseases of other parts of the body. Anæmia, uterine disease, the neurotic and hysterical condition, and constipation, often behave in this way. In old people the function of gastric digestion is often impaired simply as the result of old age. To each one of these conditions belongs its appropriate treatment, but it is not the treatment of chronic gastritis.

Still further, we must remember that in many cases of gastritis, palliation of the symptoms is all that we can hope for. This is true with the gastritis associated with heart disease, emphysema, phthisis, cirrhosis, Bright's disease, gout, rheumatism, and alcoholism. It is also true of the cases in which the inflammation has gone on to the destruction of the septic and mucus glands. After excluding all these, there remains a large and important group of cases of chronic catarrhal gastritis, in which we may hope not only to alleviate the symptoms, but to cure the disease.

It is evident, from the nature of the disease, that any treatment intended not merely to palliate, but to cure, must be of long duration, and that it must be repeated from time to time, when the inevitable relapses occur.

The different plans of treatment, then, which may be adopted are:

The curative effects of climate and mode of life.

The regulation of the diet.

The administration of drugs.

The use of local applications directly to the inflamed membrane.

I. CLIMATE AND MODE OF LIFE.

These I believe to offer the most certain means of curing chronic gastritis. It is unnecessary to lay down rules as to the sort of climate; that can be regulated by the tastes of the patient. The two points of importance are: First, the locality selected must be one where the patient can lead an out-of-door life. Second, the patient must live in this climate either for several years, or for a considerable part of each year.

Excellent as this method of treatment is, it is evident that it can be carried out only by a limited number of persons.

II. THE DIET.

The regulation of the diet is a matter which demands consideration in every case of chronic gastritis. In trying to ascertain the best way of feeding these patients, I have found only one satisfactory method, and that is to feed them experimentally with different articles of food, and then after an interval of several hours wash out the stomach, and see how thoroughly these articles of food have been digested and removed from the stomach. After pursuing this course for a number of years, I have arrived at the following conclusions:

It is necessary that the patient should be well fed; a starvation diet never answers.

The stomach does not require any rest from the performance of stomach digestion; on the contrary, it is all the better for being called on to perform its natural functions.

The patients' own ideas as to what food agrees with them are usually erroneous. They are apt either to starve themselves or to select the least nutritious articles of food.

The use of artificially digested foods, or of substances such as pepsine to assist stomach digestion is unnecessary.

The starches, oatmeal, corn meal, bread, the cereals, the health foods are as a rule, bad. Portions of them remain undigested in the stomach for many hours.

Milk in adults is an uncertain article. It answers very well for some persons, not at all for others.

Meat is usually readily and well digested, but there are occasional exceptions to this rule.

Vegetables and fruits can be eaten, but the particular varieties must be selected experimentally for each patient.

I do not believe that any case of chronic gastritis is to be cured by diet alone. Even the exclusive milk diet, while it often relieves symptoms, is as a rule, only temporary in its effect, so that the patient simply loses a certain amount of time by employing this instead of more efficacious plans of treatment.

III. THE ADMINISTRATION OF DRUGS.

The advantageous use of drugs belongs to the earlier stages of chronic gastritis. At that time they often palliate symptoms and sometimes even seem to cure the inflammation. In the later stages of the disease their use becomes more and more unavailing. The reliable drugs for this purpose are not numerous: the preparations of soda, potash, and bismuth, the mineral acids, glycerine, sometimes carbolic acid, sometimes iodoform, sometimes the bitter infusions. If none of these answer, it is hardly worth while to look any further. If we can combine, with the administration of drugs, the regulation of the diet, and of the mode of life of the patient, then of course, our chances of success are much greater.

IV. THE USE OF LOCAL APPLICATIONS MADE DIRECTLY TO THE MUCOUS MEMBRANE OF THE STOMACH.

This I regard as the most efficacious plan of treatment for those patients who are not able to leave home and seek a proper climate, but ask to be relieved without interruption to their ordinary pursuits. The local applications are readily made by the introduction of a soft rubber tube through the æsophagus into the stomach.

Liquid applications are the best. They should be made in such quantities as to come thoroughly into contact with the entire surface of the mucous membrane, although the pyloric end of the stomach is the region where the inflammation is principally situated. They should be made at a time long enough after eating for the stomach to be as nearly empty as possible.

For many cases warm water alone in considerable quantities is the only local application needed. In some, however, there is an advantage in medicating the water, and for this purpose, I employ a variety of substances.

The alkalies, the mineral acids, bismuth, carbolic acid, the salicylates, iodoform, belladonna, ipecac, gelseminum, may each one be employed according to the particular case.

For the first week it is often necessary to put the patient on a milk diet, and this can be done even with those patients who, under ordinary circumstances, cannot take milk at all.

Then, after a time, to the milk we add one solid meal composed of meat alone. Next, this single meal is increased by the gradual addition of fruits, vegetables, and bread. Then comes the giving of two solid meals a day, instead of one, then three solid meals, and now we get rid of the milk in part or altogether.

For the first week of this treatment it is wise not to expect any special improvement. Indeed, even a longer time than this may try the perseverance of the physician and the confidence of the patient.

Sooner or later, however, the expected improvement begins: the nausea and vomiting cease, the constipation or diarrhœa is improved; the flatulence is no longer troublesome; the headache becomes less frequent; and, of more real value than these, the improvement in the general condition of the patient becomes evident. The color, the weight, the appetite, the sleep, the spirits of the patient, all show a change for the better. Of all the symptoms, the pain is the one which is apt to persist the longest.

For two or three months the patient has to be kept under observation, and the applications to the stomach made by the physician. After this, the patient is dismissed, but continues the treatment himself, first every other day, then twice a week, then once a week for several months. The regular relapses of the disease are managed in the same way, but are much more quickly relieved.

ALEXANDER'S OPERATION ("Shortening of the Round Ligaments").—In the New York *Medical Record* Dr. Wm. M. Polk gives a report of fifteen cases of this operation performed by him in Bellevue Hospital, and then makes the following remarks upon them and the operation in general:

A glance at these cases will show that I have applied the operation to all the conditions for which it has been recommended, and to two which have been excluded by the originator of the procedure, the two with adhesions holding the uterus down. The result in these satisfies as to the propriety of excluding all such. So long as the uterus cannot be easily placed in a normal condition by the sound, it stands outside the domain of Alexander's operation. Such cases can only be treated successfully by a plan which I have been driven into, namely, by abdominal section; then tearing up the adhesions, and removing the tubes if they require it; but if they do not, by placing a drainage-tube bebehind the uterus, as we have to do in many ovariotomies, and leaving it in for forty-eight hours. By this method, I believe, we secure permanently an anterior position for the organ.

Recapitulating the conditions for which I have performed Alexander's operation, we find them to be: Retroflexions, 4 cases; retroversions, 6 cases; retroversions with prolapsed ovary, 1 case; prolapsed ovaries, 1 case; prolapse of the uterus, 3 cases.

In studying the advantages of Alexander's operation, I confess that its application to cases of prolapse of the uterus has interested me most. At the risk, therefore, of wearying you with a side issue, I will speak more particularly of it. Prolapsus uteri is the joint result of rupture of the perineal structure and stretching of the uterine ligamentous supports. These supports are chiefly the utero-sacral and basic lines of the broad ligaments. Its principal perineal support is the pubo-coccygeal division of the levator ani, or, as I think it better named, the pubo-perineal division, *enclosed between its layers of fascia.*

The manner of the destruction of the usefulness of this muscle matters but little, the result sooner or later will be the yielding of that portion of the pelvic floor which it guards, and the descent, first, of the vaginal wall, next, of the uterus.

If it were possible in all cases to restore the normal resistance of the pelvic floor we might not find it necessary to do more for the prolapse; but, as a matter of fact, this is rarely accomplished, because of the great difficulty of reaching and uniting the torn ends of the pubo-coccygeal muscle and its fasciæ; or the impossibility of correcting the relaxation due to subinvolution or congenital defect.

That the recognized perineal and vaginal operations fail to reach the essential causes of defect in the pelvic floor is proven by the constant recurrence of prolapse in cases subjected to the most elaborate and thorough operations upon the perineum and vagina. This being so, we must see if aid cannot be obtained from the round ligaments. I am sure that it can be.

It would appear that the prolapse of the uterus is preceded by a backward displacement of it, and there is much reason for believing that if the organ can be kept not only anteverted, but well forward in the pelvis, it will escape the full force of the intra-abdominal pressure, and thus avoid prolapse; and again, when prolapse has already taken place, it is natural to suppose that the relaxed ligamentous supports will the more readily regain their normal dimensions and strength if they can be re-inforced by some other suspending support. Now by this operation we not only antevert the uterus, but draw it well up and forward, thus giving its ligaments the re-inforcement suggested, and if in addition we do what is possible toward the restoration of the pelvic floor, we then will have given the case the best, and to my mind, the most rational treatment yet devised.

The indications for the operation may now be summed up as follows: Prolapse of the uterus; retroversions and retroflexions of the uterus in which the organ can be placed in the normal position, and yet a pessary cannot be comfortably worn; prolapse of the ovary, the organ being reducible and not large enough or diseased enough to demand removal.

From this statement it will be seen that the operation has a limited but a well-defined application, and that it reaches cases which, without it, we would either abandon or else subject to graver procedures.

Operation.—I prepare patients for this operation as carefully as I do for an ovariotomy. The bowels are cleared out both by a cathartic and an enema. The food is mainly fluid for thirty-six hours before the patient is placed on the operating-table. Etherization is a necessity. The first step in the operation proper is the shaving of the mons veneris, and then the thorough cleansing not only of that space, but the whole of the abdomen and the upper and inner part of the thighs. The vagina should then be carefully washed out with some disinfecting fluid. The entire region is then surrounded with carbolized towels. The operator may now stand between the thighs, which are extended, or else take a position to either side. Next, the guide for the incision is to be sought for, and that is the spine of the pubes. This is to be cut down upon, making the incision parallel to Poupart's ligament, and about two inches or more, if necessary, in extent.

The first objective point is the tendon of the external oblique muscle—for in that lies the external inguinal ring. Having reached it, place a finger on the pubic spine, and slide it upward and outward, about half an inch, when the depression of the ring will be felt. Next clear away all the fat and connective tissue which covers the tendon of the oblique muscle about the ring. In this way it is readily exposed. As you watch it now, you will see a mass of fat and vessels, and sometimes the reddish fibres of the round ligament protruding, and rising and falling with the respiratory movements. This mass should now be seized and drawn out; in a moment the round ligament will come into view; then it should be grasped with the forceps and isolated. Continuing the traction it will slide from the ring. If you have mistaken a portion of the tendon of the muscles, you can easily determine the question by running the finger outward along the muscle, for as you make traction you will feel the tendon as a taut line extruding outward above Poupart's ligament. Traction on the round ligament will give no such line. Should you find it necessary to enter the canal in search of the ligament, in view of the important structures which will be approached, the dissection should be carefully made upon a director.

As soon as one ligament has been isolated, the other should be sought for and isolated in the same manner.

The uterus should now be placed in its normal position, unless the case be one of prolapse of the uterus; then it should be pushed as far up and forward as is compatible with safe pressure.

For this purpose I prefer a sound with as large a bulbous end as can be easily passed into the uterus. The sound is a necessity in cases of retroflexion but the fingers may be substituted in other cases, being placed either in the vagina or rectum as occasion demands.

The ligaments should now be drawn moderately taut, and stitched to the anterior face of the pubic bone, carefully prepared fine silk being used, three to each ligament sufficing. These, having been cut short, the loose ends of the round ligaments should next be cut away. If the ring gapes, or if you have opened the canal, the columns should be carefully stitched together with silk.

If the incisions have been made through a thick layer of fatty tissue, it is best to introduce bone drainage-tubes, closing the wound around them; but otherwise you may close the wound directly, using deep, silk sutures.

Aseptic cotton tampons are then placed in the vagina, and are allowed to remain for forty-eight hours. I do not know that they are required, but I think it probable that they relieve the strain upon the round ligaments, and thus aid in their secure attachment in the new position. For a month the patient is kept in bed; after that she is allowed to go about at will; but she should be cautioned to avoid straining efforts for six months at least. Coition should be infrequent for a period of two months, dating from the operation; and this is the more imperative if there be tenderness along the line of the ligaments.

With one patient too frequent indulgence led to a good deal of annoying pain along that line. Mr. Alexander advised, after his early operations, that the patients should wear a pessary for two or three months. I have not found this precaution necessary; all of the patients, so far as I know, having been without them from the date of the operation.

Some operators use but one incision, making it just above and parallel to the crest of the pubes, extending to the outside of each pubic spine. I have not tried this path; consequently I am not in a position to speak of its advantages or disadvantages. I find that an impression prevails to the effect that Alexander's operation is both difficult and dangerous; I cannot say that I have found it so. Any competent surgeon who understands his anatomy, and who is familiar with uterine disorders, can readily perform it, and the dangers are trivial provided the operator is *clean*. Abscesses will develop now and then in the incision, but never if proper precautions are taken; and even when they have occurred with me, no serious result has followed. The question of a development of a cellular inflammation in the broad ligaments, as a consequence of this operation, has also been raised. I can only report that I have had no such result in any of my cases.

Increased experience with the procedure convinces me that it is not a difficult operation, that it is a safe one, and, more than all, that it is a valuable addition to the measures of relief which we have to offer to quite a number of weary sufferers.

ABSTRACTS.

THE HYPODERMIC INJECTION OF CARBOLIC ACID FOR THE CURE OF HEMORRHOIDS, CARBUNCLES, ETC.—In the *Atlanta Medical and Surgical Journal* for July, Dr. F. B. Kennedy, of Hillsboro, Texas, reports the following cases: *Case* 1.—March, 1875. Called to see Mrs. McA., a delicate little woman, whom I found suffering with an hemorrhoidal tumor nearly as large as a goose egg. She was suffering such intense agony that I determined to inject morphia and carbolic acid into the tumor. I injected five or six drops of Calvert's pure carbolic acid, made soluble in just as small a quantity of pure glycerine as would dissolve it, and a half grain of morphia, into the centre of the tumor as near as I could get it. The pain was very great, but subsided in less than two minutes, when there was an entire absence of all pain. Four more injections of the acid alone effected a complete cure in this case.

Case 2.—Called August 19, 1878, to see J. R. D., aet. 50, suffering with fifteen large carbuncles on his back and neck. He was suffering fearful agony, his family informing me he had not slept five minutes in five days and nights. I at once injected four or five drops of carbolic acid into each carbuncle with the happiest effects. In five minutes after injecting he was in a sound, refreshing sleep, which continued without intermission from 4 o'clock P. M. until 9 o'clock A. M. He awoke from sleep greatly refreshed and free from pain, and never did have any more pain. Twelve of the carbuncles aborted and three went on to suppuration, or rather had commenced to suppurate when I first saw them. A complete cure followed in three weeks. Before this he was frequently afflicted with carbuncles, but since he has never had a carbuncle, and to-day is in splendid, robust health, and a happy man.

Case 3.—J. L. F., a well-to-do farmer, consulted me in reference to a tumor on the back of his neck which had commenced to grow and was paining him. I found a fibro-cellular tumor about the size of a small egg, and injected twenty drops of acid of full strength into the centre of the tumor, which in this case suppurated, but healed kindly in ten days and left no cicatrix behind.

Case 4.—December 10, 1880. Miss J. A., a young lady aet. eighteen years, in the full bloom of womanhood and beauty; a very large tumor in the right mamma. Her history was good—had been in good health all her life. Two years since, synchronous with the establishment of the catamenia, she noticed a swelling in the right mamma. It had been growing for two years, and was now as large as a child's head. She had never suffered any pain in the gland. I diagnosed it to be a multilocular adenoid tumor. I injected about twenty drops of pure undiluted acid into the most prominent portion of the tumor. The pain was very slight, the anæsthetic effects of the acid following immediately the withdrawal of the needle. I used the remedy from week to week once a week for two or three months, at the expiration of which time the tumor had decreased in size from a child's head to a goose-egg. I now commenced its use twice a week, and soon reduced the tumor to the size of a hen's egg. At this time the young lady moved to a distant county. I learn that the tumor entirely disappeared. She married—had a child—and found the right mamma unaffected, and the secretion of milk as abundant as in the left.

Case 5.—A highly nervous young lady came to my residence to have a felon lanced. She was clamorous for chloroform, as she feared the pain would kill her. I bathed the finger in pure undiluted acid, and in two minutes lanced the felon almost without pain, much to her astonishment.

Case 6.—August 24, 1885. Mr. Isaac M. Newton, aet. about thirty-five, living at Mt. Calm, twenty-five miles distant, came to me to be treated. On an examination I found five hemorrhoidal tumors, the mass being as large as my two fists. The patient was cachectic and emaciated to an extreme degree. I injected about twenty drops into one tumor. In two hours he sent for me. I found the tumor strangulated, and he was suffering excruciating agony. I placed him fully under chloroform and reduced it. As soon as he would get from under the influence of the anæsthetic, the tumor would protrude again. I gave him one grain of morphia hypodermically, which quieted all pain. On the next day I injected twenty drops of the acid into another, and so on from day to day until I had injected all five, when the tumors had become so much reduced in size that they returned within the sphincter of their own accord. I continued the treatment for ten days, placing him on a good blood-making tonic, when he returned home, and inside of three weeks he was entirely restored to health and usefulness. He is a farmer, and can now do as much work as anyone.

Case 7.—Mr. C. A. J. W., a prominent merchant of our city, had three hemorrhoidal tumors as large as small hen-eggs. I injected twenty drops of acid into one tumor, when he begged me to inject the other two, which I did—thus injecting sixty drops of the pure undiluted acid at one sitting, but there was not the slightest toxic effect; the tumors sloughed, however, but healed very kindly under treatment.

During the eleven years in which he has used carbolic acid in this way he says he has never witnessed any of its toxic effects—such as nausea, cold sweats marked pallor of the skin, stupor, rapidly deepening into complete insensibility, a feeble pulse, which is generally rapid, and great disturbance of the breathing. He has never, from its use externally, met with the dark-colored urine mentioned by writers. He has also used it quite extensively, as an internal medicament (with the happiest effect), for its sedative effect upon the gastro-intestinal mucous membrane, and its anti-fermentative action upon the *primæ viæ*. He considers it an admirable remedy in vomiting and diarrhœa, caused by excessive irritability of the gastric or intestinal mucous membrane, in flatulence —yeasty vomiting—in diarrhœa with offensive discharges, in the fermentative diarrhœa connected with intestinal dyspepsia. It may be given in doses from one to three drops. It should not be given oftener than every three hours. The best menstruum is glycerine, which dissolves it in all proportions.

"Since the commencement of its use in 1875," he continues, "I have met with but one single failure, and that was a keloid tumor situated on the pectoral region. The tumor would very nearly disappear, and then return again as large as ever. It is true I had two hemorrhoidal tumors to slough, but they healed very kindly (with an entire disappearance of tumors) under the following treatment:

℞. Iodoform.	
Oil Rose āā	ʒss
Acid carbolic	grs. xx
Glycerine (pure)	ʒij
Ung. petrol., q.s.	℥j
M. ft. ungentum.	

Apply to slough three or four times daily. The oil of rose almost completely masks the intense and disagreeable odor of the iodoform."

CONSANGUINITY IN MARRIAGE.—In a paper on this subject read before the Ohio State Medical Society, June 4, Dr. E. S. McKee, of Cincinnati, arrives at the following conclusions:

1. Like breeds like, good or bad, entirely independent of consanguinity.
2. Evil results have undoubtedly followed consanguineous marriages, but whether dependent upon consanguinity is extremely doubtful.
3. Intemperance, luxury, dissipation, sloth and shiftlessness, as well as hygienic surroundings and innumerable other causes, among them the depraved moral state dependent on births the result of incest, should bear much of the responsibility laid at the door of consanguinity.
4. Testimony is often weakened by religious or other prejudices.
5. Data are of doubtful reliability, full of flaws and false reasoning. The noted cases are the unfortunate ones. The favorable are unknown or forgotten. It is the ill news which travels fast and far.
6. We, as physicians, know that there is much more illicit intercourse than is generally discovered. May not many people be related though not aware of it? Many marriages may thus occur between relatives presumed to be non-relatives; thus again vitiating statistics.
7. Statistics show about the same proportion of deaf mutes, idiots and insane persons descendent from consanguineous marriages to the whole number of these unfortunates as the number of consanguineous marriages is to the whole number of marriages. They show fertility among the consanguineous to be slightly greater than among non-consanguineous. They also show a somewhat greater frequency of retinitis pigmentosa.
8. Atavism explains fully the fact that in some instances healthy consanguineous parents beget unhealthy children. This, as is well-known, occurs in most hereditary troubles. Furthermore, a less superficial examination may show this healthfulness to be only apparent.
9. Evil results in the offspring of consanguineous marriage prove that *something* was wrong. That it was the consanguinity has not been proven. It may have been one of a hundred things, and dependent on all of the antecedents for generations. Such results remaining absent after these marriages proves, for that case at least, that consanguinity was harmless, for it was known to be present. Further, if consanguinity was the cause, the effect should follow where the cause is present.
10. Consanguineous marriages which bring together persons having a disease or morbid tendency in common are dangerous to the offspring. Not, however, one whit more so than the marriage of any other two persons not related, yet having an equal amount of tendency to disease in common. Conditions

present in both parents, good or bad, are simply augmented, and the result would have been the same were they not related.

11. Given a malformation or disease firmly established, we have a tendency to breed true. Given a defect or peculiarity in a family, race or sect, this will naturally be propagated by inter-marriage, *e. g.*, color blindness is remarkably hereditary among the Jews and Quakers. The Quakers are educated to abhor color, so that those who admire color separate themselves from the sect, and thus intensify the tendency in the remainder. The defect has probably crept in among the Jews and is kept up and intensified by intermarriage. The same means has also had its effect among the Quakers.

12. Certain inherited diseases, as scrofula, phthisis and rachitis, which are ascribed to consanguineous marriages probably in every instance could be traced back to an ancestor.

13. Man is an animal; anatomically, physiologically, and sexually, he is subject to the same laws of propagation. In and in breeding in animals is carried on to an extent not only not permissible in the human species, on moral grounds, but also beyond the grounds of human possibility, yet this is done by cunning breeders to improve the stock and put money into their pockets. The Jersey cattle have been bred for the last 150 years on a small island 6x11 miles. You would not raise them for beef or oxen, yet they command a high price for their milk and butter. This was probably the recommendation of the first cattle on the island, and this quality has improved from that time to this, through in and in breeding.

14. It would be better for the offspring were consanguineous marriages under medical supervision. Certainly no better than for all marriages to be under like supervision.

15. The half a hundred abnormalities ascribed to consanguinity, including almost all the ills that flesh is heir to, among others, whooping-cough, approach the ludicrous.

16. The factors which lead to consanguineous marriages are, portions of country geographically isolated, or mountainous, rendering communication with the outside world difficult; religious or political sects of an exclusive nature, and aristocratic ideas. As examples note the per cent. of consanguineous marriages in Scotland, 5.25 per cent. to those in England, 3 per cent., the preponderence in Martha's Vineyard, the commune of Batz and among the Jews and Quakers.

17. The facts do not warrant us in supposing that there is a specific degenerative effect caused, *ipso facto*, by consanguinity.

18. Consanguineous marriages, no other objeciton being present, should not be opposed on physiological grounds.

MICROSCOPY AND PATHOLOGY.

A New Diagnostic Test for Typhoid Fever.

Statistics regarding the therapeutics of typhoid fever are almost always seriously vitiated by doubts as to diagnosis. This is more especially the case with the alleged abortions of typhoid. It is very desirable, therefore, to have some definite test of the presence or absence of the disease in its early stages. The temperature curve is known to be often far from typical; the roseola does not appear, if at all, until from seven to twelve days; there are, in fine, no pathognomonic symptoms in the earlier stage of the disease.

Several observers have recently tried to establish a method of making the typhoid bacillus of Eberth a means of positive diagnosis. This bacillus is now quite generally conceded to be a constant accompaniment of the disease in question, and of no other. Attempts to find this bacillus in the blood have not been very successful, although Neuhaus (*Berlin Klin. Wochen.*, 1886, No.6) observed them in blood taken from incisions made near the roseola spots. M. Bouchard has also found the bacillus in the urine. Recently Philopowicz (*Wien. Med. Blatt.*, 1886, Nos. 6 and 7; *L'Union Médicale*) has communicated the results of his personal experience in the examination of blood drawn from the spleen of typhoid patients. Having washed the skin with a solution of bichloride, 1 to 1000, he inserted the needle of a hypodermic syringe, previously sterilized, between the ninth and tenth ribs, and withdrew some of the splenic blood and juice. In this he was able to recognize the bacilli of Eberth, and produced cultivations showing their specific character. All this was done in four patients, before the appearance of any roseola. There does not seem to be any great inherent difficulty in using this method of testing the nature of a suspected fever, provided, of course, that subsequent experience confirms the results of Philopowicz. Such a method cannot be made a routine one, but in hospitals it may be frequently used, and by it perhaps the much-disputed question as to whether typhoid fever is ever aborted can be settled.—*Therapeutic Gazette.*

SARCOMA OF THE CEREBELLUM IN THE CHILD OF A SARCOMATOUS MOTHER.

Dr. George L. Peabody presented, at a recent meeting of the Practitioners Society, of New York (*Medical Record*, June 26), a tumor occupying exclusively the white matter of the cerebellum, which proved, on microscopical examination, to be a round-celled sarcoma of moderate vascularity, in a child three years of age, whose mother's history was as follows: Mary F——, aged twenty-four, a native of the United States, married, was admitted into the New York Hospital on October 15, 1884. Eight years before she had noticed a swelling beneath the middle of left side of the inferior maxilla. Three years ago a similar swelling occurred on the right side of her neck. These had grown gradually and without pain. Her general health was excellent at this time.

The tumor on the left side of the neck was as large as a cocoa-nut; that on the right side the size of a small lemon. The skin over them was normal and freely movable. They were smooth in outline, they fluctuated, did not pulsate, and were neither painful nor tender. On aspiration blood only was withdrawn. The tumor on the left side was removed by Dr. W. T. Bull, on October 20, and that on the right side on November 3. Each of these tumors was found to be enclosed in a fibrous capsule, and to consist, besides the blood, whose presence was proved by the aspirator, of rough, shaggy, fleshy masses, growing from the periphery inward toward the centre. This fleshy interior was made up of small, round, and spindle cells in an abundant fibrous stroma. Blood-channels without distinct walls were very numerous, and some of them were large. Many scattered masses of blood-pigment showed that hemorrhages had occurred. The wound healed kindly, and the woman left the hospital in good condition. These tumors were both fibro-sarcomata.

On December 29, 1885, she was again operated upon by Dr. Bull, and a tumor removed from the left side of the neck, at the site of the growth previously described as removed from that situation. It was about the size and shape of a small hen's egg. It had attracted the patient's attention soon after the previous operation, and had grown steadily. It was almost entirely enclosed in a fibrous capsule, and was very rich in blood, which was found in large vascular channels without distinct walls. It was composed largely of small spindle cells in a fibrous stroma, and was regarded as a spindle-celled sarcoma. The wound did well, as on the previous, occasions, and the patient soon left the hospital in good condition.

A month later she noticed a lump on the left side of her back, between the internal border of the scapula and the spinal column, which in two months had attained the size of a goose-egg. It was hard, smooth in outline, not fluctuating, freely movable, not painful, but slightly tender. The skin over it was normal. This was removed by Dr. Markoe on March 11, 1886. It was found histologically to be in part a fibro-sarcoma and in part a spindle-celled sarcoma. It was not very vascular. The wound did well, and the patient again left the hospital.

The chief interest centred in the occurrence of this tumor of the cerebellum in a child whose mother had repeatedly suffered from sarcomata.

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PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme.............	equal to	1-65th	grain.
1 centigramme............	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme............	"	150	"
1 hectogramme...........	"	1,465	"
1 kilogramme.............	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre.............	equal to	1-1,000th	metre.
1 centimetre.............	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches
1 decametre	"	10	metres
1 hectometre.............	"	100	"
1 kilometre	"	1,000	"
1 myriametre.............	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre.........	equal to	15	troy grains	water.
1 centrilitre......	"	150	"	"
1 decilitre.......	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre.......	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.....	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl drachm water at 60 deg. F.......		56 96-100ths grains.
1 fl oz. " "		455 69-100ths "
1 fl gallon " "		231 cubic inches.
1 fl pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

PERMANGANATE OF POTASSIUM AS AN EMMENAGOGUE.—The tendency to report our successes and to allow our failures to drop out of sight is inherent in human nature. Even when our failures are through no fault of our own, and might be instructive to others, we are very loath to believe them worthy of record; hence it is that in regard to almost any remedy medical literature abounds in laudations and successes, whilst reports of failure are rare, so that the balance of published accounts is almost always in favor of a drug or a measure, even though such measure may have been proven worthless and universally discarded.

These considerations have been brought to our minds by a recent perusal of the literature of metallo-therapy, a system of treatment which, if all that has been said of it were true, would be of great importance. Our readers may remember that as long ago as 1849 a French physician by the name of Burq discovered the alleged facts which are the basis of the system, and that being of a most persistent turn of mind, he pursued the subject in season and out of season until, in 1876, he persuaded the French Society of Biology to appoint a commission to investigate the truth of his assertions. This commission was composed of the most eminent of French neurologists, and, after three years, reported the correctness of the statements of Dr. Burq. The disease especially implicated in the method was hysteria, and the condition of hysteria in which there is lack of sensation, viz., hemianæsthesia. It was found that the hysterical patient varied in her relations with different metals; that in the one case the binding upon the anæsthetic surface of a disc of zinc would restore sensibility, or in another case, copper alone was successful, whilst a third case yielded perhaps only to the persuasive powers of silver, gold, platinum, or other precious metals. The commission further discovered that usually there was a transfer of the anæsthesia from one side to the other, so that while the left side, for instance, became sensitive under the application of the proper metal, the right would lose its sensibility. The capital therapeutic discovery of Burq was that if the metal which was found to be so related to the individual as when in contact with the skin to remove anæsthesia, was given in continuous dose internally, it produced a cure. This also was in a measure confirmed by the commission. In sundry cases, under the use of the elected metal, color returned to the face, power to the paralyzed arm, sensitiveness to the benumbed surface, joy to the distressed heart, and peace to the surrounding family. A lamentable " find " made by Professor Charcot was, however, that the application of a metal to the healed surface was followed by a return of the symptoms, so that the clouds which had been dispersed would again make the landscape of the patient's future dull and leaden. Permanent satisfaction could only be obtained by fleeing from metals as from the unpardonable sin. Great names are those which have vouchsafed the facts of metallo-therapy. Slight, indeed, has been the public denial, and yet who to-day uses metallo-therapy as a practical method of treatment?

In recent numbers of the *Therapeutic Gazette* we have published, under the ægis of names scarcely less renowned than those which sanction metallo-therapy, the use of permanganate of potassium in amenorrhœa. As is known by everybody, the permanganate of potassium is decomposed with great certainty and rapidity by organic matter in the presence of an acid. It seems to us very evident that the permanganate of potassium cannot exist for a few moments in the stomach without decomposition, and that as the permanganate it cannot ever get into the blood; if therefore, it really has emmenagogue properties, such properties must be possessed by the salt of manganese which is formed in the decomposition of the permanganate of potassium. We would very much like to direct our readers to a clinical study of this subject. In the first place, we wish extended the practical investigation as to whether the alleged results produced upon the uterus have not been merely accidental.

In the second place, if the permanganate be really found to be an emmenagogue, trials should be made with the acetate or other soluble salt of manganese. We have very little doubt but that various practitioners have tried the permanganate, and almost as little doubt that it has been found wanting as an emmenagogue; but, from the considerations already given, the reports of failures are wanting. We would, therefore, ask any reader who has tried either *unsuccessfully* or successfully the salt, to let us know the general scope and the details of his experience. If emmenagogue properties are possessed by the permanganate, and also by the salt of manganese, the latter would be much the preferable, because much less apt to irritate the stomach.—*Therapeutic Gazette.*

THE VALUE OF OIL OF EUCALYPTUS IN MALARIAL AFFECTIONS.—From a study of a considerable number of cases, the results of which he publishes in the *Therapeutic Gazette,* Dr. J. H. Musser, of Philadelphia, arrives at the following conclusions:

1. That the oil of eucalyptus is of decided value in about thirty-three and one-third per cent. of all cases of intermitting malarial fever.
2. That it has no specific value in any one type of the disease.*
3. That the longer the duration of the disease, the less liable is it to do good.
4. That relapses are not prevented by it.†
5. That its influence on the spleen has not been demonstrated.
6. That a dose of ten drops four times daily has been a sufficient dose, but that five drops every three hours would be of greater value possibly.‡
7. That good results are not attained as quickly as by large doses of quinine, but that a good effect should be observed within five days at least.

CARNRICK'S SOLUBLE FOOD.—Dr. C. F. Denny, of St. Paul, writes to the *Northwestern Lancet* under date of June 1, 1886, as follows: Not long since I had brought to me a child of six months, suffering from the following symptoms: Constipation, at times irregular action of bowels, regurgitation of food and an asthmatic cough. Its mouth was full of thrush sores, and its appearance one of poor nourishment. It had been given a number of Infants' Foods in vain, one of which I prescribed myself. By means of mild medication, directed towards the cough and stomach, something was accomplished. Finally I gave "Carnrick's Soluble Food," and had the satisfaction of having it retained, and at last accounts the child was doing nicely. I am inclined to think this food is worthy of attention on the part of the profession. It recommends itself in that it contains caseine, rendered soluble by pancreatine, starch converted into dextrine and maltose. Hence it requires but little preparation, and that is so simple, mistakes cannot occur. It requires no addition of milk. It has the advantages and none of the disadvantages of the many foods now in the market, and forms a nearly physiogical substitute for mother's milk.

Dr. T. L. Hatch, of Owatonna, Minn., also reports to the same journal three cases of inanition in infants successfully treated with this preparation.

MALTINE PREPARATIONS.—The Maltine Manufacturing Company have recently made some improvements in their preparations, so that it will be found that Maltine is not so viscid as formerly made, but of a more fluid consistency, and, while retaining its nutritive and diastasic value, it is rendered entirely agreeable to the taste, and can be more easily administered.

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*It failed in one case of puerperal malarial fever; it was not tried in remittent or continuous malarial fevers.

†One of my private patients, who contracted intermittent fever in the South, and had very frequent relapses in the North, in spite of quinine, has not suffered a relapse since taking eucalyptus three years ago.

‡The oil, which is quite distasteful, may be administered in capsules, in emulsion, or in glycerine.

An important addition has also been made to their compounds, viz.: Maltine with Cascara Sagrada. The value of cascara sagrada in many cases of obstinate and habitual constipation is generally recognized, and in combination with the tonic and digestive properties of Maltine, it would seem to constitute a most useful and agreeable remedy, that is applicable in a very large number of cases.

BIOGRAPHY.

THE LATE DR. FAUNTLEROY.

Dr. Archibald Magill Fauntleroy, whose death occurred at his residence in Staunton, Va., on June 19, had been in delicate health for some time, and his condition was regarded as dangerous about a week before the end came. On Saturday morning, however, it was thought that he was better, but about six o'clock in the evening an alarming change occurred. Two or three of his professional brethren responded to the hasty summons for aid, but before they reached the house his spirit had taken its flight.

Dr. Fauntleroy was born in Warrenton, Va., July 8, 1836. His father was the late Gen. T. T. Fauntleroy of the U. S. Army, and as he was stationed on the western frontier of Texas, Dr. Fauntleroy spent his early life there. At seventeen years of age he entered the Virginia Military Institute, where he graduated with distinction four years later. He then attended the University of Virginia, and was subsequently graduated from the Medical Department of the University of Pennsylvania.

After passing the customary examination, he received a commission as assistant surgeon in the U. S. Army, and was assigned to duty at Fort Laramie, Texas. He resigned this commission when Virginia seceded, and was appointed by Governor Letcher surgeon in the Confederate States Army. He was soon made Medical Director in Gen. Johnson's Division, and in this position rendered gallant service on the field. Shortly after the battle of Seven Pines, Dr. Fauntleroy was placed on hospital duty, and showed in this department of medical life very rare and conspicuous talent. He had charge of the Staunton Hospital until the close of the war, and this hospital was reported to the Surgeon-General as being the best organized and directed institution of the kind in Virginia. After the close of the war Dr. Fauntleroy made Staunton his home. He became the leading physician in that whole section of country, and was widely known for his skill both as a surgeon and physician; while as a man his simple nobility of character and unhesitating generosity made him universally and enthusiastically beloved. This was the more to be noticed as Dr. Fauntleroy was of a most reticent nature, quiet and reserved, always holding back his services until they were urgently required, and never taking the initiative even in making an ordinary acquaintance. For many years he held the position of Superintendent of the Western Lunatic Asylum of Staunton, and showed his splendid ability by the manner in which he fulfilled this trust. His death caused, in Staunton, an unparalleled demonstration of sorrow and dismay, for there was scarcely a household there but had been rendered grateful to him for his skill and devotion in time of severe illness.

Dr. Fauntleroy married, in 1866, Sallie, daughter of the Hon. R. T. Conrad, of Winchester, Va. She was a lovely and accomplished woman, a true helpmeet, and survives him. Ten children blessed their happy union, so that we may hope that in the future, worthy sons may bring fresh honors to the name which they are proud to represent.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

ASSOCIATION OF AMERICAN PHYSICIANS.

The following report of a portion of the proceedings of the first annual meeting of the Association of American Physicians, which was held at Washington, June 17 and 18, 1886, is principally taken from the *Medical News*, and the *Journal of the Amer. Med. Association.*

Dr. F. Peyre Porcher, of Charleston, S. C., read a paper on

TYPHOID FEVER.

He explained that he would confine himself to the therapeutics of the disease, and chiefly dwell on his own experience. Although he had had an extensive experience in hospitals, he would confine himself to his private practice. It is of the first importance to be able to secure a low rate of mortality from typhoid fever. It is a great mistake to trust simply to statistics of the death-rate following any prescribed course of treatment. This is especially true of hospital statistics. They are, in typhoid fever, untrustworthy, as the patient is apt to come in at an advanced stage of the disease, and there are a variety of other causes which serve to vitiate the returns. In all cases, the circumstances of each patient must be taken into consideration in order to weigh the value of the statistics. He considered that the plan of treatment he had adopted was worthy of careful consideration, inasmuch as he had lost but three cases, which amounted to a fraction over nine per cent. of all he had treated. A mortality of less than ten per cent. may be considered a standard of excellence in typhoid fever. He had observed that all fevers are ushered in by costiveness; there is apt also to be a certain amount of anxiety in the patient's mind—it is possible that this may, in nervous cases, cause diarrhœa, though he had not noticed it; but it is sufficient generally to cause a dryness in the mouth. That anxiety has this effect is well known, and is made use of in India for the detection of theft: suspected persons are given dry rice to chew and spit out; the rice is afterward examined, and the guilty person detected by the dryness of the rice which he has chewed. A mild laxative at the commencement of the disease, preferably a mercurial, is generally useful.* Stimulants are important for temporary support where there is much exhaustion; as high temperature is an element of danger, antipyretics internally and externally are most important. The method he uses externally is to apply ice-cold water to the head, hands, and arms systematically. He applies a soft towel, soaked in the water, to the head, and frequently changes it. By another towel the ice water is sprinkled on the arms; sometimes the hands and arms may be immersed. This should be continued fifteen, twenty, or thirty minutes at a time, or until the surface is cool. The advantage of this method over the wet pack or cold bath is, that it is easily used and not liable to abuse. It is not opposed to popular feeling as are the other methods, and will be therefore willingly applied by the attendants and submitted to by the patient. It is very effective in all cases of continued fever in reducing the temperature. In malarial fever he has seen it bring down a temperature of 107° and 108° F. Sponging the lower extremities with alcohol and water is sometimes very soothing. Besides the sponging, he uses a fever mixture containing sweet spirits of nitre, aconite, spirits of Mindererus, and acetate of potash, which he has found most effective.*

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*Any laxative may be employed; the following combination is useful:

℞· Pulv. Rhei., gr. ii-iv; magnesiæ, grs. x; hydrarg. chloridi mitis, gr. ss.-ii; sodii carbonatis, grs. iv; pulv. ipecac, gr. 1-4; M. et ft. Pulv., No. 1. Sig. One powder every four or five hours, as required.

In cases complicated with malaria he makes use of quinine and arsenic, but does not endorse the large doses of quinine frequently given. His experience is that the alkaline treatment is indicated in the early part of the disease, and that acids are more valuable later. Sordes on the tongue and delirium are indications for free stimulation; in delirium he has also found cantharides to the back of the neck very useful. In treating the accidents occurring in the course of typhoid fever, the employment of turpentine, inwardly and externally, is the best remedy for tympanites. It is a general and special stimulant and styptic. Rubbed up with mucilage and given in connection with the carbonate and muriate of ammonium, it is invaluable in the broncho-pneumonia which may occur in the course of typhoid fever. In this condition he uses with great advantage cotton-batting with oiled silk to cover the entire chest. When albuminuria occurs, he administers quinine and tannin, in doses of two grains each, three times a day. For nausea he employs small doses of ipecac. He has seen carbolic acid and tincture of iodine reduce the temperature, but has no reason to believe that they have any influence in cutting short the disease.

Dr. James Tyson, of Philadelphia, said that he had found that where it was necessary to keep up a continued antipyretic effect, the purpose was best subserved by the use of cold water externally. This he applied by means of towels dipped in ice water and wrapped about the trunk of the patient. Antipyrin is good, but it causes chilliness and chattering, which have a bad moral effect on the patient and his attendants, and small doses soon lose their effect. He had employed thallin in four grain doses, with the effect of reducing the temperature two and a half degrees in half an hour, but with the same objectionable chilliness and chattering following. The same medicine had been repeated in half the dose with the same good result and without the unpleasant effects, but its influence was very transient. All these points were illustrated in a case which had recently come under his observation, which he related. He considered antipyrin and thallin invaluable for the reduction of temperature except in cases where a continued antipyretic influence is required, and then he prefers the external use of cold water.

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* ℞ Potassii acetatis, ʒ i; liquor ammonii acetatis, ℥ i; spr. ætheris nitrosi, ℥ ss; tinct. aconiti, ʒ ss; aquæ ad. ℥ iv. Sig. A dessertspoonful in a little water every two hours, so long as the fever continues.

Morphia or the bromides may be added to the above preparation. It may also be employed in other fevers. Hot pediluvia may also be employed.

Dr. J. T. Whittaker, of Cincinnati, considered elevation of temperature nature's remedy to get rid of the cause of the disease. It is now pretty clearly demonstrated that the disease is caused by a bacillus. We must attribute changes that occur in the disease to the cause, and not to the heat of the body.

Dr. F. T. Miles, of Baltimore, called attention to the fact that in some cases the disease runs its course with a normal or even subnormal temperature.

Dr. E. Darwin Hudson, of New York, believed the best method of treatment is in many respects a negative one. The treatment he endorsed consisted in sponging the body every two hours with water whenever the temperature rose to 102° F. He keeps the patient with a rubber cloth under him and a wet sheet above him. It is his custom to employ an exclusively milk diet, which he considers of itself of wonderful value, and continues it on into convalescence.

Dr. S. C. Chew, of Baltimore, said he could hardly consider that the treatment just described was negative, since, although Dr. Hudson did not employ ice water, the temperature of the water was still lower than that of the body. Antipyretic treatment is extremely important, even though the bacillus theory be admitted. He considered quinine, given hypodermically, almost a specific as an antipyretic, having far more influence administered in that way than when given by the mouth, just as morphia has a more positive effect when administered hypodermically. He uses quinine in the form of the hydrobromate, so prepared that twenty minims represent four grains.

Dr. Frederick P. Henry, of Philadelphia, said that, having read reports of the very remarkably favorable results from the use of Larrabaque's solution, he had tried it in twenty-six cases at the Philadelphia Hospital, and lost four cases, which was a very high percentage. He had also more relapses from its use than is usually observed. He thought the high claims put forward for certain special methods of treatment often misleading. Referring to Dr. Chew's remarks on the value of quinine hypodermically as an antipyretic, he said that he could readily understand that its effect might be increased by that method of employment. We know it is the case with bichloride of mercury, that its action in certain syphilitic skin diseases is greatly intensified by being administered hypodermically.

Dr. W. H. Draper, of New York, believed that nothing is more fallacious than mortality statistics in typhoid fever, as false cases are often reckoned in, and so vitiate the result. Cases where a high temperature is not reached should not be considered. It is very easy to overestimate the value of antipyretics in typhoid fever and continued fevers generally. Where there is continued hyperpyrexia, the cases generally prove fatal in spite of antipyretics. The value of this class of drugs is that they contribute to the comfort of the patient. They do not materially lessen the death-rate.

Dr. William Pepper, of Philadelphia, said that he wished this Association would turn its attention to the collection of carefully prepared statistics on this subject. He quite agreed with those who claimed that in this disease hospital statistics are worthless. This Association is in a position peculiarly fitted to undertake such a task. Every physician will have what might be termed a run of luck in his practice. For a considerable period most of his typhoid patients recover. This will be followed by a run of cases with a large mortality. For himself, he did not consider a death-rate of from ten to fifteen per cent. much below what it would be if no special treatment was instituted, and, therefore, thought that arguments based on methods of treatment showing such a result fallacious. He believed it a mistake to consider temperature as of great importance in the treatment of typhoid fever. He insisted upon the value of absolute rest and rigid diet. Abstraction of heat is important. Some remedy should be given addressed to the intestinal canal. He could not say which was the best, but his preference was for the salts of silver. Where cases come under care early, he did not think that a mortality greater than six per cent. a satisfactory result in private practice.

Dr. Porcher, in conclusion, agreed with Dr. Tyson in his method of treatment on theoretical grounds, but practically it is very difficult to carry it out. In order to wrap wet towels around the trunk of a patient we must remember that it required him to be moved. In typhoid fever the patient is generally in a very weak condition. Then, there is the difficulty of keeping the bedclothes, etc., dry, and we have, as a rule, to combat the strong objection of the patient and his attendants. All these objections were met in his method, and the results were as satisfactory. He was surprised no one had spoken of the value of the fever mixture he had mentioned. How any practitioner could treat typhoid fever without it, or something equivalent to it, he did not understand. Some had spoken of the disease running its course without fever. This must be considered as one of the rarest occurrences.

Dr. James Tyson, of Philadelphia, opened the discussion on the question:

"DOES THE PRESENT STATE OF OUR KNOWLEDGE JUSTIFY A CLINICAL AND PATHOLOGICAL CORRELATION OF RHEUMATISM, GOUT, DIABETES, AND CHRONIC BRIGHT'S DISEASE?"

He stated the prevailing views as to what constitutes each of these diseases.

Rheumatism—i. e., articular rheumatism—is a general disease with acute or subacute inflammation of the articular and periarticular tissues in a person possessed of a tendency, hereditary or acquired, thereto. No *materies morbi* that can be held responsible for the disease has been isolated, though there probably exists one. The products of the inflammation are in no way specific.

Gout is also a general affection with arthritis, especially of the smaller joints. A tendency is likewise necessary for this. Undue accumulation of uric acid in the blood is conceded by most to be responsible for the symptoms. The arthritis is more or less constantly associated with deposit of sodium urate in the joints.

Diabetes mellitus is more difficult to define, but there are at least two quite different varieties pathologically. In both there is a deranged function of the liver, as the result of which the cells are unable to dehydrate glucose into glycogen, but permit it to pass as glucose through the portal vessels, and thence into the general circulation. This is brought about in the milder cases by an over-ingestion of saccharine and amylaceous food, causing exhaustion of the glycogenic function. This form is easily curable by dietetic measures. In the more severe form, which may be termed the neurotic or neurologous form, the dilatation of the hepatic blood-vessels and accelerated movement of the blood are caused by a lesion in a distant part, very frequently in the cerebro-spinal or sympathetic systems. This form is benefited, but not cured, by dietetic treatment. In many of these cases careful autopsies often fail to discover any lesion.

Bright's disease: We must include here both the interstitial and parenchymatous nephritis, as the former occurs in connection with gout, and the latter with rheumatism.

Both rheumatism and gout are arthritic affections, and an essential part of each is an inflammation of the joints, although not joints of the same class. The changes in the joints in rheumatism are not specific, but those in gout are. There is no excess of uric acid or lactic acid in rheumatism, Latham's theory to the contrary notwithstanding. The presence of uric acid in the blood in gout is generally conceded. Heredity, though operative in both rheumatism and gout, is far more operative in the latter. Gout effects those in latter life more generally, while rheumatism is a disease of younger life. Alcoholic liquors, which have no influence on articular rheumatism, are all powerful to produce gout. Insufficiency of food is an etiological factor in rheumatism, but the reverse is true of gout. The rarity of kidney disease in rheumatism and its frequency in gout is a point to be considered. A gouty endocarditis is nothing like so frequent as one of rheumatic origin. Again, the skin diseases which are so frequent in gout are not so in rheumatism. The causes of rheumatism are cold, exposure, etc., while for gout these are not the causes, but a peculiar substance in the blood. Gout also is brought on by errors in food and drink. Atmospheric influences and injuries may be the exciting causes of the attack. If we turn to therapeutics, we find that salicylic acid, which is the best remedy for rheumatism, is also useful in gout, but for rheumatism it is almost a specific, as quinine is for malaria, while in gout its effect is readily understood. It has a direct effect upon the glycogenic function of the liver. It increases the amount of urea in the urine, and diminishes uric acid. But with the exception of salicylic acid, the remedies for gout and rheumatism are not the same. Remedies addressed to the liver, which are useful in gout, are of no avail in rheumatism, and may even aggravate it. Gout needs eliminative measures, rheumatism constructive. On account of these considerations we must deny the identity of the two diseases.

The association of gout with contracted kidney is frequent, and here a relation must exist. Uric acid, by its irritating properties, is one of the many causes of contracted kidney. Dr. Tyson illustrated this by the relation of a case. The relation between gout and the milder form of diabetes is a difficult question. In both the specific gravity of the urine is high. But in gout this is caused by the presence of uric acid and the urates, while in diabetes the amount of water is increased and the uric acid is not increased. It is said that urine in gout and lithæmia has been found to contain sugar. But this statement is made owing to an error arising from the fact that uric acid causes deposits of copper salts. Since Dr. Tyson has ceased using copper salts in testing the urine of gouty patients for sugar he has ceased to find evidences of it. It has been urged that the diet that is good for glycosuria is also good for diabetes. This is true, but the reason for it is different. In gout the indigestion of food is caused by the want of power in the digestive ferments. In diabetes, as has been above explained, the cause is different. On the whole, however, although some of the arguments are wrongly made, there is a correlation between gout and the milder form of diabetes, but the relationship is more pathological than clinical.

But the case is different when we come to consider the relationship between the neurogenous or neurotic form of diabetes and gout, for there the cause of the diabetes is not in the liver but in the nerve centres. Diabetes and albuminuria are supposed to be very frequently connected, but the connection is by no means constant in the earlier stages. There is a true correlation between gout and chronic Bright's disease, but not so in the case of diabetes. Salicylic acid has been found useful in one form of diabetes. The cases where good results have been obtained from its use, however, have been those where diabetes and rheumatism have existed together in the same subject.

In summing up, he said that the conclusions he had arrived at were—

1. Gout and rheumatism resemble each other in that each has a *materies morbi*. But this is not the same for both diseases. The *materies morbi* of gout has been discovered, that of rheumatism is still obscure. But each disease has its own poison.

2. On comparing gout and diabetes in its milder form we find that the liver is affected in both, but in the former case the digestion of the hydrocarbons is at fault, while in the second the power of converting glucose into glycogen is diminished or lost.

3. There is no correlation between gout and severe diabetes.

4. Between diabetes and acute rheumatism there may perhaps be some connection.

But pathology or clinical medicine at the present time fails to show any true correlation between the diseases in question. One of them may be antecedent to the other in the same person, but this does not establish the casual relation between them.

Dr. Wm. H. Draper, of New York, said that we must presume that, however far pathology may be from finding any true correlation between the diseases in question, the very fact that the question had been raised showed that there must have been something in clinical experience that suggested their relationship. There are investigations in vital chemistry the results of which seem to point to this conclusion, but as yet it would be premature on pathological grounds definitely to decide the question.

As co-referee, he considered the question from a clinical standpoint, and the first step would be to define the sense in which he would use the terms.

1. *Gout:* by this we mean not only an arthritic disease, but a diathesis, which by changing the nutrition, causes the appearance of a variety of affections.

2. *Diabetes:* the more common and less severe form in which there is an inability to digest food-sugars.

3. *Rheumatism* covers the acute and subacute varieties in which diagnosis from gout is difficult.

4. *Albuminuria:* that form characterized by the contracted kidney.

Gout, diabetes, rheumatism, and chronic Bright's disease are frequently associated, sometimes in the same person, sometimes in a family; the latter is quite common. They may all exist distinctly in the same person. The question is, Do these facts show that these diseases are correlated? The first clinical fact is heredity; testimony shows that glycosuria has often a gouty ancestry. We must distinguish mild glycosuria from the graver form of diabetes, though this may follow the milder. Even the graver form may have a gouty ancestry. Heredity is not so evident between gout and rheumatism, though acute rheumatism frequently occurs in the children of gouty parents. These cases present all the clinical evidences of rheumatism. Of course, heredity cannot be pleaded in respect to non-allied diseases, but in the present case the analogy is singular. Besides this, we must remember that the milder forms of rheumatism are not to be used to estimate heredity. On the other hand, Hutchinson tells us that crippling and gonorrhœal rheumatism recognize a gouty ancestry. Chronic interstitial nephritis is observed in gouty families. These diseases are associated with similar nutritive changes. Physiological investigation shows diminished power of digesting the carbohydrates. The intolerance of these in gouty subjects has been too much overlooked. The connection one with another, as shown by treatment, is strong; the administration of alkaline salts, whether in mineral water or not, is important in all. The reputation that various springs in Europe have in the treatment of all these disorders would seem to indicate a connection between them, though their value is not so great in rheumatism. Besides this, salicylic acid, which is so valuable in rheumatism and gout, and also, though in a less degree, in diabetes, suggests the same idea. All these considerations are open to criticism, but they inevitably excite a suspicion of an alliance between the diseases. Pathologically, however, they must each still be considered more or less distinct and specific.

Dr. J. T. Dana, of Portland, Maine, asked whether it would not be well to extend the question under discussion so as to include rheumatoid arthritis. The differentiation between this and gout and rheumatism had been fully made out by Dr. R. P. Howard, of Montreal. Does not this affection require correlation with the others mentioned in the question as much as any one of them?

Dr. E. G. Janeway, of New York, thought it necessary to be very careful how we take the opinions of English authorities on the subject of the hereditary influence of gout, for the English are a gouty people and, therefore, to English observers gout might seem to have a relation to diseases that are in no way allied to it. The same apparent relation is not found if the history of people of other countries is examined. He called attention to the fact of the great prevalence of diabetes among the Hebrews, while gout is not frequent among them. This would not be the case if the conclusions of English observers were correct. In the examination of diabetic urine for albumen, we must remember that in a certain proportion of cases its presence does not denote renal disease, but may be due to the presence of mucus secreted by the mucous membrane of the bladder and meatus, irritated by the excess of uric acid.

Dr. Frederick C. Shattuck, of Boston, corroborated Dr. Janeway's statement of the frequency of diabetes amongst Hebrews.

Dr. Alfred L. Loomis, of New York, said that pathologically the diseases are not directly correlated, but clinically it would be difficult to divest one's mind of the idea of correlation. The clinical connection between them is so striking, they touch each other in so many points, and they so often coalesce, that one is almost compelled to admit their close relationship. Dr. Loomis related a case of a man, sixty-three years of age, who was first attacked with gout at the age of forty-two. The attacks recurred at intervals till he was sixty. Frequent examinations of his urine gave negative results, except that there was a high specific gravity and a quantity of urates. After a severe attack in his sixtieth year sugar appeared in his urine. This continued for six months, when it disappeared, and since then albumen has been present. Another case was that of a man, sixty-five years of age, who had had frequent attacks of gout and rheumatism for ten years. Between the attacks sugar was found in the urine, but was absent during the attacks. Albumen was at times noticed, but it was not constantly present. During this period he has had gradually increased arterial tension and cardiac hypertrophy. During the last six months the tension has diminished and the hypertrophy has given place to dilatation. A third case was that of a gentlemen who had enjoyed excellent health till he was fifty years of age. At that time, after intense business strain, the urine was largely increased in quantity and sugar was found in it. He was improved by travel in Europe and a restricted diet. He still restricted his diet after his return, but the sugar persisted and increased in amount. In February last he had a well-marked attack of gout, and in a month after albuminuria appeared, and he now has anasarca. Such cases are not very unusual, and they lead us to the belief of their correlation. They are constantly alike in the presence of anæmia, cardiac affections, digestive difficulties, and nervous symptoms. Interstitial nephritis and gout are surely correlated; the former is often the last link in the chain. The changes in the vessels of the kidney are due to prior changes in the blood.

Dr. H. C. Wood, of Philadelphia, said that in regard to rheumatism and gout, it was his experience that they are the same disease. It is impossible to make out a clean differential diagnosis between them. In his own family his great grandfather had had gout. He did not know how it was with his grandmother, but all her brothers and sisters had suffered from it. It appeared in the next generation. He himself suffered from chronic rheumatism. Another member of the family had had six attacks of imflammatory rheumatism in as many years, another was attacked for the first time at thirty years of age, and so on. How can pleurodynia be separated from gout? As to the prevalence of gout in England vitiating the observations of English authorities, those books might just as well have been written in Philadelphia, for gout is as prevalent there as in England.

Dr. Pepper, of Philadelphia, thought that the clinical evidence in the case is too strong to be overlooked. We must wait for the revelations of vital chemistry to show us just how these diseases are correlated. In the meantime we must take care not to mistake an accidental for a real connection. Both rheumatism and Bright's disease are so very common that they might readily occur in the same family without correlation. Still, the evidence is in favor of their bearing a relation with one another. Dr. Draper had done well to extend our view of the subject of gout beyond the attacks of arthritis to the gouty diathesis. By this means we get a much truer view of the matter in question. In regard to the Hebrews, it is quite true that they are liable to diabetes, but while they are not so subject to the arthritic form of gout, they are to lithæmia. The question of the occurrence of the arthritic trouble rests upon peculiar local conditions. Certain persons are born with a tendency that causes the disease to assume that form. In rheumatoid arthritis the nervous element is largely prominent. The nervous system may be at the root of, and be the real cause, of all these disorders. He did not consider that the theory put forward by Dr. Janeway, that of irritation of the mucous membrane of the bladder and meatus, was sufficient to explain the occurrence of albumen in the urine in diabetes.

Dr. Janeway explained that he had referred only to a certain class of cases when he made the statement referred to.

Dr. A. Jacobi, of New York, thought that the fact that we have to use the term rheumatic arthritis, of itself shows the limitations of our knowledge, beyond which we cannot go. He illustrated the limitation of our knowledge by citing other allied diseases. The transient forms of glycosuria are much benefited by salicylic acid. This drug increases and liquefies the bile, and diminishes the deposit of gall-stones. The people who are affected in this way are often fat, are anæmic, and frequently of the Hebrew race. If these eat and drink too freely, we not only find a high specific gravity, but sugar in their urine. Sometimes it persists for a considerable period. Between true diabetes of the severe form and true gout, he saw no connection. We must remember that Bright's disease, and gout, also, are very common after forty years of age.

Dr. Draper, in conclusion, said, in reply to Dr. Dana's question, that he considered rheumatoid arthritis as of gouty origin in the larger signification of that term. We must not accept the statement of patients, that they or their families are free from gout, for the meaning they attach to the term is simply of the acute disease in the joints. They may have lithæmia without this. We have too much limited gout by insisting on the deposit of uric acid in the joints. This is, after all, only an epiphenomenon of the disease. Let us enlarge our definition of gout. His experience did not accord with Dr. Janeway's as to the prevalence of diabetes among the Hebrews. He had at this time a case of persistent diabetes in a Jewess. The family was gouty, and two of the brothers diabetic. He thought Dr. Wood was correct in regard to the difficulty of diagnosis between gout and rheumatism. He would be glad to hear from any physician present who was always able to diagnosticate between the two. In conclusion, he would add that the correlation between these diseases must yet be determined; their connection is a matter of constant clinical observation.

Dr. Reginald H. Fitz, of Boston, read a paper on:

"PERFORATING INFLAMMATION OF THE VERMIFORM APPENDIX, WITH SPECIAL REFERENCE TO ITS EARLY DIAGNOSIS AND TREATMENT."

The paper was based upon an analysis of 257 cases of unquestionable perforating ulcer of the appendix, and of 209 cases diagnosticated as typhilitis, perityphilitis, and perityphilitic abscess. In the latter series the diagnosis was clinical, not anatomical. The important features in the etiology of appendicitis were considered also the limitations as to sex and age. It was found that the disease occurred most frequently among previously healthy youths and young adults, especially males; and that a fæcal concretion or foreign body was present as a local cause in more than three-fifths of the cases. Attacks of indigestion and acts of violence, especially when indirect, were exciting causes in one-fifth of the cases. The action of these causes was favored by a constipated habit, or by congenital or acquired irregularities in the position and attachment of the appendix. The first characteristic symptom of a perforating appendicitis was found to be a sudden severe abdominal pain. This occurred in eighty-four per cent. of the cases, and usually in the right iliac fossa, where tenderness could always be found, even when the pain was referred to some other locality. The pain was attributed to the actual perforation, or the detachment of fresh adhesions. Fever was the next characteristic symptom, and occurred in the course of twenty-four hours.

Finally came the swelling, which made its appearance in the course of three days. The chief source of danger from the appendicular peritonitis arose from its becoming generalized. Such a result followed most frequently between the second and fourth days. More than two-thirds of the patients died during the first eight days, and two-thirds of these between the fourth and eighth days inclusive. The question of a differential diagnosis was then discussed. The determination in resolution was referred to. It was considered to take place in about one-third of the cases as approximately determined from the recorded cases of typhilitis and perityphilitis. Even resolution might be undesirable, since the number of cases of recurrent disease is considerable, and might have been prevented by appropriate treatment.

The reader recommended at the outset the opium treatment, with rest and a liquid diet, the food being given in small quantities, frequently repeated. If it became evident that general peritonitis was imminent at the end of twenty-four hours after the sudden intense pain, the appendix should be exposed and removed. Usually the symptoms were not so urgent that the appearance of the swelling could not be awaited. Although Willard Parker advised that the abscess might be opened as early as the fifth day, the practice has been to operate at a later date; forty-seven per cent. of the cases were operated upon in the second week, and twenty-six per cent. after the third week. More favorable results in the future were to follow the earliest possible opening of the swelling. This in most instances was, at the outset, a sac formed by a circumscribed peritonitis. It was usually present on the third day of the disease, dating from the pain, its first marked, characteristic symptom. Negative results from a diagnostic puncture did not contra-indicate the operation.

Dr. William Pepper, of Philadelphia, related two cases which bore upon this point. On Saturday last, while making a post-mortem examination for another purpose, he examined the appendix. The appendix contained two hard concretions looking like date seeds, and some hardened fæces. These must have been there for a long time, but there were no evidences of inflammation. A few days before that he made a post-mortem examination in the case of a man aged forty, who had for years sacrificed every interest in life for his business. On Monday he had some nausea and vomiting, for which he took a laxative. He returned to his home in the evening feeling badly, and sent for a physician. There was vomiting, some fever. There was marked abdominal pain, which was relieved by the use of opium suppositories. On the fourth day the speaker examined him, but could detect no tumor in the right iliac region. There was frequent and free micturition. This symptom would have a bearing upon the possible existence of intestinal obstruction. Another marked symptom was tenesmus. Several large stools had followed the laxative. Enemas of warm oil produced no evacuation. Rectal examination gave a sense of indistinct fullness, but showed no hard tumor. Collapse set in on the fifth day, and the patient died on the seventh day.

The question of laparotomy was carefully discussed. It was not performed at first because of the uncertainty of the diagnosis, and later, when the diagnosis became evident, because of the symptoms of collapse. At the autopsy no peritonitis was found. There was a contraction of the ascending colon, at its junction with the transverse colon, but not sufficient to cause complete obstruction. A circumscribed abscess was found around the vermiform appendix, which was dilated. There was a large perforation, but no obstruction was found. These cases have impressed upon him the view that perforation of the appendix is only the explosion of an old catarrhal appendicitis, and that it is not an acute idiopathic affection. The diagnosis in these cases is a matter of great difficulty in the early days, except where it is associated with considerable pericæcal inflammation. He agreed with Dr. Fitz that early operation gives the only chance of saving the patient. He did not think the third day too soon. The difficulty is to arrive at a sufficiently clear diagnosis at that early day to justifiy laparotomy as an exploratory operation.

Dr. J. T. Dana, of Portland, Me., thought that it is not rare to find inflammation of the appendix as a latent affection. In a case which he recently saw, the first symptom was the occurrence of general peritonitis. By exclusion he made the probable diagnosis of perforation of the vermiform appendix. The case resulted fatally in seventy-two hours. At the autopsy general peritonitis was found, and there was an opening in the appendix through which a concretion had escaped. A second body was found within the appendix. There had been no previous symptoms to call attention to disease of the appendix. This illustrates a class of cases of which he has seen not a few.

Dr. A. L. Loomis, of New York, said that, from his experience, he thought that it was impossible, in the majority of cases, to make an early diagnosis by the ordinary means of diagnosis. Of the symptoms given by the patient, the most certain indication seems to be given by the occurrence of a chill. When pain is marked, it will usually be localized in the left side, but not necessarily. Recognizing the importance of the early diagnosis, he had decided, several years ago, in such cases to put the patient under the influence of an anæsthetic, and examine by the rectum and externally. In the first case in which he adopted this plan the chilly sensation had preceded his visit twenty-four hours. By bimanual palpation he satisfied himself that there was an increase in the region of the appendix, and expressed the opinion that perforation had occurred, and recommended operation. This was refused. Peritonitis set in within twenty-four hours, and the patient died. In two other cases he made the diagnosis by the same plan. It must be remembered that the vermiform appendix does not occupy the same position in all individuals. As soon as the diagnosis of perforation is made out, the operation should be performed.

Dr. E. G. Janeway, of New York, divided the cases as follows: 1. When general peritonitis is the first symptom noticed; 2. Where there is localized peritonitis; 3. Where there is inflammation of the cellular tissue, with or without abscess. In the third variety the diagnosis is difficult. There is sometimes in these cases a great deal of œdema, with very little or no pus. These may go on to recovery. In the second variety an operation is necessary. The varieties must be distinguished. The early symptoms are very much the same. In a certain proportion of cases the pain, though severe, is not localized. There is pain on micturition, and this is sometimes so severe as to simulate the passage of a renal calculus. There is generally some point of deep-seated infiltration and tenderness.

KENTUCKY STATE MEDICAL SOCIETY.

The following report of a portion of the proceedings of the Kentucky State Medical Society at its thirty-first annual meeting, held at Winchester June 23, 24, and 25, has been kindly furnished the JOURNAL by Dr. E. S. Kee, of Cincinnati:

Dr. D. T. Smith, of Louisville, read a paper on

SOME MOOT POINTS IN THE MECHANISM OF LABOR.

The points discussed were, the cause of head presentations, the physics of expulsion, and the mechanism of rotation. The doctor believes that the great preponderance of head presentations is induced by the effects of swimming movement upon animals in water, in connection with the changes undergone by the uterus during gestation. A man in water not using the arms, but making natural movements with his legs, is drawn head-foremost to the bottom. The child in the womb scarcely uses its arms, and the movements of its legs cause it to take the position head downwards. In the later months of pregnancy, the uterus being conical in the lower segment, the child is retained in that position. The animal, on the other hand, swims by its natural movements, upward to the outlet. The mechanism of expulsion has for its object the changing of the uterus from the spherical to the cylindrical form, and therefore the most economical reduction of its capacity. Hence the development of the circular band of fibres around the middle of the organ, and the arrangement of muscular contraction which causes the body of the parturient to curve forward. The essayist was of the opinion that the reflexes from the lower segment of the uterus are conveyed to the dorsal and abdominal muscles, instead of its own muscles. He doubted if the iliac and psoas muscles are greatly contracted during labor.

In rotation he was inclined to think that the fact that the face and forehead are more angular in outline, and are also smoother and more easily freed from vernix has a share in determining rotation. As this condition increases on the passage of the head, this feature, the essayist suspected, might exert a very decisive influence in rotation from right to left occipito-posterior positions to occipito-anterior positions.

Dr. Dudley S. Reynolds, of Louisville, made a

REPORT ON PATHOLOGY,

in the course of which he said that, in considering this new science which we call pathology, he wished to instill a sort of skepticism which rejects as facts every thing which cannot be clearly demonstrated. I stand here, he said, to affirm that tuberculosis is an infectious and contagious disease, disputed by no one who has undertaken experimental investigations. Heredity, he thought, had nothing to do with it. He reported cases where he had found tuberculous bacilli in catarrh of the nose and ear. He reported, also, his examination of water from typhoid fever wells in Louisville, and exhibited microscopical specimens.

Dr. F. C. Wilson, of Louisville, thought heredity had much to do with the production of tuberculosis. He thought many cases could be traced to contact.

Dr. Pinckney Thompson, of Henderson, thought that the specific cause of typhoid fever had not been discovered. In the city it is impossible to find a case which connot be traced to some other case. In the country he had seen typhoid fever exist where it was impossible to have come from another case.

Dr. Wm. Bailey, of Louisville, objected to some of the positive assertions made in the paper. To him the germ theory is the most plausible one. Most theories must, as yet, be held *sub judice*. He thinks we cannot dismiss heredity with a wave of the hand, and is sure that we cannot make the insurance companies dismiss heredity from their questions.

Dr. J. T. Whittaker, of Cincinnati, said that in discussing the acquisition or heredity of tuberculosis we should inquire, Is there not more than one element in this disease? Disease requires not only seed, but soil. We might inherit the soil in which the disease would develop. The whole question hinges upon inoculability. This is proven. Introduce bacteria into the eye, and you can see every stage of its development. If the disease is inoculable, it must be contagious. Thirty per cent. of us die of it. Most of us recover, as is shown by the presence of tubercles *post mortem*. The seed had not fallen in suitable ground. There is no disinfectant like ventilation. We use horrible disinfectants, are then obliged to open the windows, and thus get ventilation. We should destroy the sputum by burning, or expectorate into a jar containing a bichloride solution. In Germany they separate tuberculous cases from others. Here there is a great hue and cry if small-pox is exposed in the ward. Yet tuberculosis is so exposed every day. It is a question whether a child ever inherits any disease from his father. Pneumatic differentiation, he thought, had entirely changed the prognosis of tuberculosis. The ventilation of the lungs is the great thing. He did not wish to be quoted as saying that this was a sure cure for consumption. It is the best method we have to secure ventilation of the lung. No spray will destroy all of the bacilli. It cannot reach them all. This pneumatic treatment is not so good as a mountain top; yet it is the next best thing. I do not think every one who has tuberculosis dies.

Dr. J. H. McCormac, of Bowling Green, thought that if it was true that micro-organisms are given off which are dangerous to persons in the room, we are guilty of criminal neglect in not acting accordingly. He referred to the action of the National Board of Health at its recent meeting, spoke in favor of the disinfecting of typhoid fever stools, and said there was no one here who did not believe that the first case of cholera, if found, could be stamped out. He referred to Sternberg's investigations of disinfectants, which he said were only deodorizers and delusions. He favored the use of the bichloride.

Dr. E. R. Palmer, of Louisville, thought that the feature most worthy of discussion was that bearing on heredity. He thought the pendulum had swung too far. He agreed with Dr. Whittaker, that the father could not transmit a specific taint. He might transmit an inherent weakness. We are probably all constantly inhaling tuberculous germs; but they do not find the proper soil. The father may transmit to his offspring certain conditions of body which may be followed by tuberculosis. He thinks, with Dr. Otis, that unless the father syphilizes the mother, he does not syphilize the offspring.

Dr. T. A. Reamy, of Cincinnati, said that, so long as the wife is not pregnant, she is safe, unless mucous patches or sores are present. He had known the father to propagate the disease ten years after the disappearance of all symptoms.

Dr. Reynolds, in closing the discussion, said he assumed that no one, except those gentlemen who have not undertaken investigation, will assume that tuberculosis is due to one cause. It is well known that many persons inherit so-called strumous diatheses. The point in relation to the transmission of tuberculosis by the father has been settled. The father cannot transmit to the offspring anything except tendency to form. He cannot transmit direct disease. The principal point is, What shall be done to prevent this disease? and the answer is, the destruction of the media by which it is transmitted.

ORIGINAL CORRESPONDENCE.

HABITUAL MISCARRIAGE SUCCESSFULLY TREATED WITH TINCTURE OF CHLORIDE OF IRON AND CHLORATE OF POTASSIUM.

CULPEPER, VA., *June* 16, 1886.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: I send you a report of an interesting case occurring in my practice; not claiming any credit to myself, however, for the plan of treatment adopted, as I had seen the report of a similar case and its successful treatment in one of the medical journals.

Mrs. H., thirty years of age, married seven years. Has had six or seven miscarriages, these generally occurring from the third to the fifth month. Hemorrhage would begin about the second month, and recur every four days until the fœtus was expelled.

She had a miscarriage about fifteen months ago, at which I was in attendance. Remembering reading of a case of miscarriage reported as being due to fatty degeneration of the placenta, in which tincture of chloride of iron and chlorate of potassium were employed with success in the succeeding pregnancy, I examined the placenta and found it almost one mass of fat. At the beginning of the patient's next pregnancy, therefore, I ordered the following mixture:

℞ Tinct. ferri chlor: fʒiij.
Potass. chlorat., ʒiij.
Glycerinæ, f℥j.
Aquæ, f℥v.
M.
S. Teaspoonful three times a day.

She took this regularly almost every day until she was delivered, at full term, of a healthy male child. About the third month she had a slight "show," but the hemorrhage never returned.

Very truly yours,
W. J. STROTHER.

REVIEWS.

A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By William A. Hammond, M.D., Surgeon-General U. S. Army, (Retired List), etc. Eighth Edition, with Corrections and Additions. pp. 945. New York: D. Appleton & Co., 1886.

Dr. Hammond's book has now been before the profession some fifteen years, and it is safe to say that no work of like aims and scope has ever attained equal popularity. The reasons for this remarkable success are several. To thoroughly appreciate some of them we must look backwards to the period when the author, at that time a young man, occupied a subordinate medical position in the United States Army. On glancing at this page in the author's history we find a young man of stalwart mental and physical make-up, bent not only upon the performance of the routine duties of his profession, but fired with a desire to push forward the advanced posts of medical research and discovery. As a result of this scientific ambition, Dr. Hammond became a diligent medical writer from the very inception of his career. During the succeeding years of professional life this taste for authorship has never left him. One monograph has succeeded the other in rapid succession; articles have issued from an ever ready press in battalions; essays have been followed by a host of more ambitious papers and tracts, until finally, feeling the necessity of giving more definite and permanent force to these various literary undertakings, he decided to write a systematic treatise dealing with the whole subject of neuro-pathology. The present work on the diseases of the nervous system is the result of that decision. The inevitable result of this constant devotion to the pen has been the development of a literary style devoid of pedantry, and characterized by an elegance of diction which has earned for the author the reputation of being one of the first, if not the first medical writer in the English language. How little of accident there is in all this, and how much of laborious evolution, will be thoroughly appreciated on comparing his earlier with his most recent literary productions.

To our own mind this "Treatise on the Diseases of the Nervous System" represents the most polished piece of writing to be found in the medical literature of any country. Take his description of symptoms; can anything more at variance with the wooden pictures of disease, so plentifully distributed throughout neurological literature, be conceived of? Take his power of pathological analysis, as exhibited, for instance, in the exhaustive discussion of spinal paralysis, and contrast those powers with the imitative pusillanimity of some later writers. Take, finally, his simple and direct observations on treatment, and observe the pains which he is at to build up, wherever possible, a rational physiological basis for his therapeutics. Contrast, we say, this direct, this lucid, this American method of treatment with the nebular manner of handling things neurological so characteristic of the metaphysical dogmatism of certain cerebral anatomists, and we feel certain that every candid physician will admit that Hammond has risen to fame, borne by the momentum of his own gifted understanding.

J. LEONARD CORNING.

A TREATISE ON AMPUTATIONS OF THE EXTREMITIES AND THEIR COMPLICATIONS. By B. A. Watson, A. M., M. D., Surgeon to the Jersey City Hospital, to St. Francis's, and to Christ's Hospital, at Jersey City, N. J.; Fellow of the American Surgical Association, etc. Illustrated by Upwards of Two Hundred and Fifty Engravings and Two Full-Page Plates. Philadelphia: P. Blakiston, Son & Co.

The first sixty pages of this volume are devoted to the early history of amputations, from several hundred years before the Christian Era to the present time.

The author also considers the various measures that have been adopted during that time to control hemorrhage. This chapter contains much of historic interest, which is presented in a pleasing and thorough manner. To one who finds pleasure in searching among the relics of the long ago, its perusal can but afford delight and profit. Chapters two, three, four, and five are devoted respectively to the consideration of conditions affecting the result of amputations, the conditions demanding them, the points at which they should be made, the preparations for, the varieties of flaps, the number of the assistants and their duties, together with other details of a practical character.

The history of the treatment of wounds from the earlier period to the present time, together with some of the reasons therefor, make up the main portions of chapters six and seven. As in the first instance, the author's statements are instructive and his style agreeable, offering to the student of surgery, as well as of the times, a rapid and satisfactory *résumé* of this important and interesting subject. The subject-matter of chapter eight constitutes the distinctive feature of the book, viz., the selection and application of artificial limbs. It is often the case that the surgeon has no knowledge of the mechanism and capabilities of artificial appliances. In fact, it too often appears as if the designer and maker of artificial appliances had no rights or opinions which the educated surgeon feels himself bound to respect. It seems to the writer, however, that they should both labor harmoniously together for the common end—the comfort and usefulness of the unfortunate patient.

The remaining chapters—three in number—treat of the complications of wounds. The illustrations are well executed, and, as a whole, the volume does credit to both the author and the publisher.

One cannot help but notice, however, that the amputation at the foot, by disarticulation of the scaphoid in front, and sawing of the cuboid in the line of the scaphoid articulation, an operation described by S. F. Forbes, of Ohio, in 1874, is spoken of by the author as "my modification," etc.; but since the same procedure is mentioned by Agnew as the "author's amputation," the writer will leave the readers to settle the question of priority to suit themselves. We can commend this volume as a practical addition to the literary armamentarium of the surgeon.

A PRACTICAL TREATISE ON NASAL CATARRH AND ALLIED DISEASES. By Beverley Robinson, A. M., M. D., (Paris), Clinical Professor of Medicine at the Bellevue Hospital Medical College, New York; Physician to St. Luke's and Charity Hospitals, etc., etc. Second Edition, Revised and Enlarged. With One Hundred and Fifty-two Wood Engravings. New York: William Wood & Company.

The well-merited favor with which this excellent work was originally received has rendered the appearance of a second edition a question merely of time. Such important improvements have been made in it, however, that in its present form the first edition would hardly be recognized. To render the treatise more useful and more worthy of the favor of the profession, the author has been at the pains of adding five valuable chapters to it as first issued. These are devoted to the study of

1. Aural Complications of Catarrhal Inflammations of the Nose.
2. Deflections of the Nasal Septum and Bony Obstructions of the Nasal Passages.
3. Mucous Coryza.
4. Adenoid Vegetations at the Vault of the Pharynx.
5. Mucous Nasal Polypi.

The text of the former edition has also been carefully revised, and changes and additions made wherever required. Many additional wood cuts have been inserted.

The existence of the above mentioned morbid conditions concomitantly with catarrhal disease of the nasal mucous membrane often complicates the treatment of the former, and renders it more difficult to attain successful results. The appended matter adds much, therefore, to the completeness of the book, and it cannot fail of being highly appreciated by all who, interested in this class of disorders, have experienced the many hindrances which arise in the way of their relief.

As a whole, the work is an admirable exposition of our present knowledge upon the subject of nasal catarrh, and as such it reflects credit alike upon its author and upon his colaborers in this country, through whose efforts so many and important additions to this department of surgical science have of late years been made.

It will be read with profit by everyone interested in the study of medicine, and, once read, will find a permanent place among the useful working-day books of the library.

Finally, it possesses one marked feature which calls for special comment. There is throughout the book a tone of absolute fairness toward the views of others, of painstaking thoroughness and accuracy of statement, and a strict adherence to scientific views and methods, which of themselves would well sustain the reputation of the work, and which, in view of their rarity, are deserving of all the greater praise.

MANUEL PRATIQUE DES MALADIES DES FOSSES NASALES ET DE LA CAVITÉ NASO-PHARYNGIENNE. Avec 53 Figures dans le Texte et 4 Planches hors Texte. Par le Dr. E. J. Moure, Professor Libre des Maladies du Larynx, des Oreilles, et du Nez; Directeur de la *Revue Mensuelle de Laryngologie, Otologie, et Rhinologie*, etc. Paris: Octave Doin, Editeur, 8 Place de l'Odéon. 1886.

This little work is, as its name implies, a practical manual of the diseases of the nose and upper pharynx. It is remarkably clear and concise in its style, and, at the same time, comprehensive and well arranged. In most particulars it is well abreast of the present advancement of rhinology, and while dealing clearly with the subjects usually treated under this head, it has, besides, especially interesting chapters upon abscess, tuberculosis, dermatoses, and neuroses of sensibility of the nasal fossæ, while the other subjects are presented with that admirable care and accuracy which is characteristic of the better class of French authors.

A COMPEND OF PHARMACY. By F. E. Stewart, M.D., Ph. G., Quiz-Master in Chemistry and Theoretical Pharmacy in the Philadelphia College of Pharmacy (Alumni Quiz); Lecturer on, and Demonstrator of, Pharmacology in the Medico-Chirurgical College of Philadelphia, etc. Based upon Prof. Joseph P. Remington's "Text-Book of Pharmacy." Philadelphia: P. Blakiston, Son & Co. 1886. 12mo. pp. viii-196.

This is Quiz-Compend No. II. in the series published by the Blakistons, and it is based, by special permission, on Prof. Remington's standard "Text-

Book of Pharmacy." The work has evidently been prepared with great care, both by the author and the publishers, and while many of the questions are so exceedingly elementary as to appear almost ridiculous, it is, in general, concise, and complete as far as it goes; though it is certainly a most grievous mistake to bring out such a work without an index. As it is, it will undoubtedly prove of very great assistance to the student of pharmacy; but in a second edition it is to be hoped that a full index will be added. At the conclusion of his preface the author very properly reminds those for whom this outline is written that it must not be forgotten that a "Quiz-Compend" is not a text-book, but is intended for the sole purpose of aiding the student in connection with his lecturer and his text-book, and will not do as a substitute for either.

BOOKS AND PAMPHLETS RECEIVED.

"Waring's Practical Therapeutics." Fourth Edition. Philadelphia: P. Blakiston, Son & Co.

"Medicine of the Future." An Address Prepared for the Annual Meeting of the British Medical Association in 1886. By Austin Flint (Senior), M.D., LL.D. New York: D. Appleton & Co.

"International Electrical Exhibition (1884) of the Franklin Institute of the State of Pennsylvania, for the Promotion of the Mechanic Arts." Report of Examiners of Section XXIII. Electro-Medical Apparatus. Issued by Authority of the Board of Managers, and Published as a Supplement to the Journal of the Franklin Institute, May, 1886. Philadelphia: The Franklin Institute, 1886.

"The Negro Problem from a Medical Standpoint." By F. Tipton, Selma, Ala. Reprinted from the *New York Medical Journal*, May 22, 1886.

"Malarial Manifestations Due to Traumatism." By Henry C. Coe, M.D., M.R.C.S., New York. Reprinted from the *New York Medical Journal*, May 22 and 29, 1886.

"The Genu-Pectoral Posture. Its Value in Impeded Uterine Reduction, in Threatened Abortion, and in the Prolonged Nausea and Vomiting of Pregnancy." Read before theAmerican Gynæcological Society, Washington, D. C., September, 1885, by Henry Fraser Campbell, A.M., M.D., Augusta, Ga., Professor of Surgery and of Gynæcology in the Medical Department of the University of Georgia; Ex-President of the American Medical Association, etc. Reprinted from Volume X. of the American Gynæcological Transactions. New York: D. Appleton & Co.

"Is Disease of the Uterine Appendages as Frequent as it has been Represented?" By Henry C. Coe, M.D., M.R.C.S., L.R.C.P. (London), Pathologist and Surgeon to Out-Patients to the Woman's Hospital; Assistant Surgeon to the New York Cancer Hospital. Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children*, Vol. XIX., June, 1886. New York: Wm. Wood & Co.

"Enucleation with Transplantation and Re-implantation of Eyes." By

Charles H. May, M.D., Instructor in Ophthalmology, New York Polyclinic, etc. Reprinted from *The Medical Record*, May 29, 1886.

"Malarial Hæmaturia." By R. H. Day, M.D., Baton Rouge, La. Read before the Louisiana State Medical Society, April, 1886.

"Bulletin of the North Carolina Board of Health," May and June, 1886.

"On the Continuous Preventive Disinfection of House Drainage." By Prof. Henry Hartshorne, M.D., LL.D. Read before the State Sanitary Convention under the Auspices of the Pennsylvania State Board of Health, Philadelphia, May 12-14, 1886.

"The Social Evil." Report of the Proceedings of the Society of Medical Jurisprudence and State Medicine, New York, at a meeting held May 13, 1886.

"Clinical History and Treatment of Lichen Ruber." By P. G. Unna, M.D., Hamburg, Germany. Reprinted from *The Medical Bulletin*, Philadelphia.

"Ueber Dünndarmpillen." Von Dr. P. G. Unna. Separatabdruck aus der *Pharmaceutischen Centralhalle*, 1885, No. 45 und 46.

"Das Ichthyol bei Inneren Krankheiten." Von Dr. P. G. Unna in Hamburg. Separat-Abdruck aus *Deutsche Medizinal-Zeitung*, No. 17, 1883.

"Heilung eines Falles von Lepra Tuberosa." Von P. G. Unna. Mit 2 Abbildungen auf Tafel IV. Separat-Abdruck aus dem Ergänzungsheft 1885 der *Monatshefte für Praktische Dermatologie*.

"Ichthyol und Resorcin als Repräsentanten der Gruppe Reduzierender Heilmittel." Von Dr. P. G. Unna. *Dermatologische Studien*. Zweites Heft. Hamburg und Leipzig. Verlag von Leopold Voss. 1886.

"Wo liegen die Leprabacillen?" Von P. G. Unna. Separatabdruck aus der *Deutschen Medicinischen Wochenschrift*," No. 8, 1886.

"Die neueren Fortschritte in der Therapie der Hautkrankheiten." Von Dr. P. G. Unna, dir. Arzt der Privatheilanstalt für Hautkranke zu Hamburg Separatabdruck aus dem *Aerztlichen Vereinsblatt für Deutschland*, 1885, No. 158.

"Die medicamentöse Behandlung des Lupus. Von Dr. P. G. Unna, dirig. Arzt der Heilanstalt für Hautkranke in Hamburg. Separat-Abdruck aus dem *Aerztlichen Vereinsblatt*, 1886, No. 166.

"Uber Salben- und Pastenstifte." Von P. G. Unna.

"University of the City of New York. Medical Department. Forty-sixth Annual Announcement of Lectures and Catalogue. Session, 1886-87." New York: 1886.

MISCELLANEOUS.

THE NECROPSY OF KING LOUIS OF BAVARIA.—The *post mortem* examination of the late King of Bavaria, made by Professor Rudinger, is stated to be confirmatory of the correctness of the decision lately arrived at as to his mental condition. The report drawn up on the latter subject was to the following effect; 1. His Majesty suffers from a very advanced stage of mental disturbance; he labors under that form of insanity which is well known to alienists of experience under the name of paranoia (mental perversion). 2. Considering the gradual and progressive development of this form of disease, and its very long duration, extending over a great number of years, His Majesty is incurable, and further deterioration of the mental faculties is to be expected with certainty. 3. In consequence of the disease, the king is entirely debarred from freedom of volition, and is prevented from exercising the functions of government; this impediment will last not only more than a year, but through his whole life. The following were the conditions found at the *post mortem* examination. The body was about six feet three inches in length, and the circumference of the chest was forty inches. There were extensive changes of a degenerative nature in the skull, as well as in the brain and its membranes, consisting partly of abnormal development, partly of chronic inflammations of old and recent date. The scalp was thick and very vascular. The skull was small in proportion to the size of the body, and somewhat asymetrical, the diagonal diameter from the left of the forehead to the right of the occiput being 17.2 centimétres, and from right of the forehead to the left of the occiput 17.9 centimetres. The roof of the skull was extraordinarily thin, its greatest thickness being three millimètres (0.12 inch). The coronal and sagittal sutures were completely obliterated on the inside of the skull. On the inner surface of the frontal bone, on both sides, were a number of large and small bony growths. The superior longitudinal sinus was excessively wide behind, and remarkably narrow in front, near the ethnoid bone. Groups of Pacchonian granulations projected into the interior of the sinus. The dura mater was generally much thickened; in the frontal region especially it was vascular, and externally shaggy; a bony growth, two millimètres in height was found here. The left petrous bone showed a projection a centimètre in diameter at the base corresponding to a depression in the temporal lobe of the cerebrum. The sella Turccia was asymetrically thickened, porous and fragile in a great part of its extent, as was also the anterior fossa of the base of the skull. All the sinuses in the base of the skull were filled with dark fluid blood. The brain (without the dura mater) weighed 1349 grammes (47½ ounces). The arachnoid, over a great part of both hemispheres, was thickened, and had a turbid white appearance. Over the median end of the left anterior central convolution, and the beginning of the first frontal convolution, the arachnoid and pia mater were adherent over a space of the size of a shilling, and formed a thick hard mass, by the pressure of which the corresponding part of the skull was reduced to the thinness of paper. On the surface of the skull, pretty equally on both sides, portions of the convolutions appeared shrivelled, especially the commencing parts of the three frontal convolutions, the middle end of the anterior central convolution, and the parts surrounding the middle division of the postcentral furrow. The substance of the brain was vascular and rather soft. The heart and lungs were healthy. There was chronic catarrh of the stomach. The liver was congested; the spleen was enlarged; and the kidneys were large but normal.—*British Medical Journal.*

THE DUTY AND PRIVILEGE OF CONTRIBUTING TO THE SUPPORT OF THE HOSPITALS.—This wealthiest city in the world—this city of which the wealth is said annually to increase by £20,000,000—is appealed to by the united voices of every single religious denomination on one Sunday, and it only gives some £30,000—i. e., some seven-hundredth fraction, not by any means of its income, but of its yearly accumulation. Out of our 4,000,000 people, one in every four is directly assisted, and only one in every thousand separately contributes. All classes are to blame. Myriads of the poor, who receive the noble beneficence of hospitals, do not spare for them all their lives long so much as the value of one quart of ale from monstrous luxury of drink. And the rich —what shall I say of the rich? I say that there are scores of men in London who could save our hospitals from anxiety almost without feeling it. Look at very recent art sales—£2,000 for one dessert service; £1,500 for two flower-pots; £3,000 for a chimney ornament; £10,000 for two rose-colored vases; £300 for a single lady's dress; £1,000 for the flowers of a single ball. I do not criticise this expenditure; I only say that if there be in London such a Pactolus of wealth for these gewgaws of silk and of clay, can there be by comparison only a drop or two to heal the bodies, to ameliorate the souls of men? Why should the runnel of Charity dribble on as it does while the full tide of Luxury is still at flood?—*From Archdeacon Farrar's Hospital Sunday Sermon in Westminster Abbey.*

ELECTRICITY IN THE TREATMENT OF EXTRA-UTERINE PREGNANCY.—Dr. A. D. Rockwell, of this city, has successfully treated no less than twelve cases by this method. In a recent communication on this subject to the *Medical Record* he says: Notwithstanding the number of times that this important therapeutic procedure has been brought to the attention of the profession, the fact still remains that many have incorrect knowledge as to the proper method to be employed; while not a few, strange as it may appear, remain in ignorance even to this day of the fact that in electricity we have a sure and speedy remedy for tubal pregnancy, if detected before the third or fourth month. As a striking illustration of the first statement, reference is made to a series of articles on Electro-Therapeutics recently published in one of our medical journals, where it was gravely stated, that for the relief of extra-uterine pregnancy a needle was introduced into the sac and electrolysis performed. Comment is unnecessary. The beauty of the operation is its simplicity. No needles are used, the fœtal life being destroyed without danger or special pain to the mother.

POISONING BY ICE CREAM.—Dr. V. C. Vaughan, of Ann Harbor, in examining a specimen of the ice cream which recently poisoned a number of persons at Newton, Mich., claims to have made the discovery that tyrotoxicon, the active element in poisonous cheese, which he discovered some time since, was also present in the ice cream, and was the cause of the sickness. This, he thinks, proves that the tyrotoxicon is due to the decomposition of milk, and may be developed in any milk which is kept in an impure atmosphere or unclean vessels. The germ seems to multiply very rapidly, and a small amount of tainted milk will poison a whole can. It is Dr. Vaughan's theory that tyrotoxicon has much to do with cholera infantum, the symptoms of which are similar to the symptoms of cheese poisoning, and it is announced that he will present a detailed statement of his investigations at the next meeting of the State Board of Health.

VENERABLE CHESTNUT AT THE STATE CAMP OF INSTRUCTION ON THE HUDSON, NEAR PEEKSKILL.—*Sentinel on Duty:* "Have you got the countersign?"
Member of the Band (sadly): "No, but I haf got der golic."

THE QUANTITY REQUIRED DEPENDS ON CIRCUMSTANCES.—*Old Lady* (in drug store): "Have you got any anise seed, Mister?"
Clerk: "Yes, Ma'am. How much will you have?"
Old Lady (hesitatingly): "Well, I hardly know how much I ought to git."
Clerk: "Perhaps I can tell you, Ma'am. Do you want it for fox-hunting or for flatulence?"

MEDICAL NEWS.

THE KENTUCKY STATE MEDICAL SOCIETY, at its Thirty-first Annual Meeting, held at Winchester, June 23, 24, 25, 1886, elected the following officers: President, W. H. Wathen, Louisville; Senior Vice-President, J. M. Harwood, of Shelbyville; Junior Vice-President, J. H. McKinley, of Winchester; Permanent Secretary, J. Steel Bailey, of Stanford; Assistant Secretary, T. C. Simpson, of Bardstown; Treasurer, Edward Alcorn, of Hustonville; Chairman Committee of Arrangements, J. G. Brooks, of Paducah. Next place of meeting, Paducah; time, the third Wednesday in June, 1887.

THE OHIO STATE MEDICAL SOCIETY, at its Forty-first Annual Session, held at Akron, June 2, 3, 4, 1886, elected the following officers: President, Thomas MacEbright, of Akron; First Vice-President, J. M. Weaver, of Dayton; Second Vice-President, W. S. Battles, of Shreve; Third Vice-President, X. C. Scott, of Cleveland; Fourth Vice-President, Jesse Snodgrass, of Kenton; Secretary, G. A. Collamore, of Toledo; Assistant Secretary, E. C. Bush, Zanesville; Treasurer, T. W. Jones, of Columbus. The next meeting will be held in Toledo.

MEMORIAL MEETING TO DR. BALDWIN.—A largely attended and interesting meeting of the Montgomery Medical and Surgical Society was held on June 9, 1886, in memory of the late Dr. W. O. Baldwin, of that city. Appropriate addresses were made by Drs. J. W. Weatherly, R. F. Michel, J. B. Gaston, W. G. Bibb, and R. S. Williams. Letters were also read from many eminent members of the profession from all parts of the country.

THE NINTH INTERNATIONAL MEDICAL CONGRESS.—The General Officers of the Local Committee of Arrangements are: A. Y. P. Garnett, M.D., Chairman; J. M. Toner, M.D., Vice-Chairman; C. H. A. Kleinschmidt, M.D., Secretary; D. C. Patterson, M.D., Treasurer.

"The Army, Navy, and Marine Hospital Service," says the *Journal of the American Medical Association*, "are well represented on the Local Committee, while the remaining members include a large part of the most active and influential members of the profession in Washington. So early and efficient an organization of the Local Committee of Arrangements affords an additional assurance that every needed arrangement will be made in Washington for the comfort of members and the complete success of the Congress."

The *Medical Record* states that a committee of twenty-five members has been appointed in Vienna for the purpose of making arrangements for the Washington meeting, and that President Cleveland has consented to be one of the patrons of the Congress.

The preliminary organization of Section XIV., Public and International Hygiene, is announced as follows: *President*—Joseph Jones, M.D., of New Orleans, La.

Vice-Presidents—John Simon, 40 Kensington Square, W. London; B. W. Richardson, 25 Manchester Square, W. London; J. W. Thudicum, 11 Pembroke Garden, W. London; A. N. Bell, Brooklyn, N. Y.; J. N. McCormick, Bowling Green, Ky.; J. Berrien Lindsey, Nashville, Tenn.; J. F. Y. Paine, Galveston, Texas.

Secretaries—George H. Rohè, Baltimore, Md.; Walter Wyman, U. S. Marine Hospital Service.

Council—Thomas Antisell, Washington, D.C.; Le Baron Botsford, St. Johns, New Brunswick; Henry Carpenter, Lancaster, Pa.; Richard H. Day, Baton Rouge, La.; J. W. Dupui, Baton Rouge, La.; Oscar DeWolf, Chicago, Ill.; Landon B. Edwards, Richmond, Va.; James Finney, New Orleans, La.; Wiley K. Foot, New Orleans, La.; Albert L. Gibson, Washington, D. C.; E. L. B. Godfrey, Camden, N. J.; D. W. Hand, St. Paul, Minn.; Thomas Hèbert, New Iberia, La.; Charles H. Hewitt, Red Wing, Minn.; Joseph Holt, New Orleans, La.; Stanhope Jones, New Orleans, La.; Benjamin Lee, Philadelphia, Pa.; Henry Leffman, Philadelphia, Pa.; J. R. Le Monnier, New Orleans, La.; Henry F. Lyster, Detroit, Mich.; A. W. Leighton, New Haven, Conn.; Wm. R. Mandeville, New Orleans, La.; N. R. Milner, New Orleans, La.; H. L. Orme, Los Angeles, Cal.; R. H. Reed, Mansfield, Ohio; W. L. Schenck, Osage City, Kan.; C. M. Smith, Franklin, Ohio; R. M. Swearingen, Austin, Texas; M. K. Taylor, U. S. Army; G. B. Thornton, Memphis, Tenn.; Wm. M. Welsch, Philadelphia, Pa.

Subjects for discussion and for the preparation of monographs: (1) Quarantine; (2) Military Hygiene; (3) Naval Hygiene; (4) Structure and Arrangement of Prisons and Treatment of Prisoners; (5) Structure, Hygienic Arrangements, and Ventilation of Buildings; (6) Influence of Agriculture on Public Health; (7) Food and Its Adulteration; (8) Relations of Water to the Public Health; (9) Influence of Alcohol Upon the Public Health; (10) Influence of Narcotics Upon the Public Health; (11) Influence of the Electric Light Upon the Public Health; (12) Influence of Modern Modes of Travel Upon the Public Health; (13) Relations of Filth to Public Health; (14) Relations of Disease Germs to the Origin and Spread of Contagious and Infectious Diseases, and to Endemic and Epidemic Diseases.

Authors desiring to contribute to this Section should communicate at once with Joseph Jones, M.D., P. O. Box 1,500, New Orleans, La.

THE FIRST ANNUAL DINNER OF THE ATLANTA SOCIETY OF MEDICINE was given on the evening of June 17, and was a most successful affair. Besides a large number of local physicians, Drs. H. F. Campbell, of Augusta, and Robert Battey, of Rome, honorary members of the Society, were present, and interesting addresses were made by Drs. Campbell, Olmstead, Taliaferro, Battey, Todd, Gaston, and Hardon.

ATLANTA MEDICAL COLLEGE.—Dr. Hunter P. Cooper has been made Adjunct Professor of Chemistry in this college.

A NEW MEDICAL JOURNAL IN ALABAMA.—The *Alabama Medical and Surgical Journal* is the title of a new medical monthly, edited by Drs. J. D. S. Davis and W. E. B. Davis, of Birmingham, Ala.

DR. J. McF. GASTON, of Atlanta, has been invited to contribute a paper on the surgery of the gall-bladder and ducts at the next meeting of the British Medical Association. His essay on Duodeno-Chlolecystectomy is to be translated into French and published, with the illustrations, in the *Journal de Médicine*.

DR. VIRGIL O. HARDON, of Atlanta, has been appointed lecturer on Operative Gynæcology in the Southern Medical College.

DR. G. C. SAVAGE, of Jackson, Tenn., has been elected Professor of

Ophthalmology, Otology, and Laryngology in the Universities of Nashville and Vanderbilt.

ASSOCIATION OF AMERICAN PHYSICIANS.—At the first annual meeting of this Society, held at Washington, June 17 and 18, the following officers were elected for the ensuing year:

President—Dr. S. Weir Mitchell, of Philadelphia.

Vice-Presidents—Drs. Francis Minot, of Boston, and R. Palmer Howard, of Montreal.

Secretary—Dr. George L. Peabody, of New York.

Recorder—Dr. G. T. Whittaker, of Cincinnati.

Treasurer—Dr. W. W. Johnston, of Washington.

Council—Drs. Wm. F. Draper, of New York; Robert T. Edes, of Boston; H. M. Lyman, of Chicago; Samuel C. Busey, of Washington; Fred. C. Shattuck, of Boston; William Osler, of Philadelphia; and W. A. Welch, of Baltimore.

The President appointed Drs. Wm. Pepper, R. T. Edes, R. Palmer Howard, J. T. Whittaker, Francis Delafield, a committee to confer with similar committees of other special societies on the advisability of forming an association to be called the "Congress of American Physicians and Surgeons."

HOSPITAL WEEK IN LONDON.—This year, instead of simply having a Hospital Sunday, a whole week, from June 21 to June 26 (the 27th being Hospital Sunday) was devoted to the purpose of exciting public interest in the needs of the hospitals, the idea having originated with the *Lancet*, which has labored with great zeal to make the movement a success. An inaugural meeting was held June 17 at the Mansion House, at which the Lord Mayor presided. Mr. Brudenell Carter, F. R. C. S., delivered an oration, and Cardinal Manning, Sir Spencer Wells and others, made addresses. Commencing with Monday, June 21, meetings were held every day during the week in different parts of the city, and among those who presided or spoke at them were, Sir Andrew Clark, the Earl of Dartmouth, Baron F. de Rothschild, the Duke of Norfolk, the Marquis of Hartington, Sir William MacCormac, F. R. C. S., the Duke of Westminster, and Sir Dyce Duckworth, M.D. The meeting on Saturday, the 26th, was at Stratford Town Hall, where H. R. H., the Duke of Cambridge presided, and the Marquis of Salisbury was one of the speakers. On Hospital Sunday the Rev. Canon Farrar, D.D., preached an eloquent sermon at Westminster Abbey on "The Christ-like Work of the Hospitals." The hospitals and medical charities of London, during the twelve months ending December 31st, 1885, relieved upward of one million patients, at a total cost of £491,634. The total income from all sources was a little over £451,000, so that there was an actual deficiency on the year's working of upwards of £40,000.

ELECTION OF DR. BROWN-SEQUARD TO THE ACADEMY OF SCIENCES.—The portals of the Paris Academy of Sciences have at last been opened to Dr. Brown-Séquard, as he was elected member at its last meeting, on Monday, in the Section of Medicine and Surgery. The eminent biologist was elected by a large majority, and the victory was the more creditable as the competitors of Dr. Brown-Séquard were all men of note, in proof of which statement I have only to mention the names of Germain-Sée, Bouchard, Jaccoud, Hayem, and Richet.—*Paris correspondence of the Lancet.*

PROFESSOR KAPOSI, of Vienna, has succeeded the late Professor Auspitz as joint editor (with Professor Pick) of the *Archiv für Dermatologie und Syphilis.*

SIR JAMES PAGET has been elected a foreign associate of the Academy of Medicine of Paris by fifty-seven votes out of sixty-four. Dr. Charles West, of London, and M. van Beneke, of Brussels, were the other candidates.

THE PHYSICIAN'S LEISURE LIBRARY.—Mr. George S. Davis, the Detroit medical publisher, announces a series of twelve new valuable medical books by eminent authors, for $2.50; single copies, 25 cents each. Among the treatises arranged for are the following: "New Medication; A Comprehensive Review of Progress in Therapeutics for the Last Fifty Years," by Professor Dujardin-Beaumetz, translated by Dr. E. P. Hurd; "A Manual of Inhalers, Inhalations and Inhalants, and Their Use in the Treatment of Catarrhal Diseases of the Respiratory Tract," Profusely Illustrated, by Dr. Beverley Robinson, of New York; "The Use of Electricity in the Removal of Superfluous Hair, and in the Treatment of Various Facial Blemishes," by Dr. George H. Fox, of New York; "Spinal Irritation (Posterior Spinal Anæmia)," by Dr. Wm. A. Hammond, of New York; "Practical Bacteriology," by Dr. Thomas E. Satterthwaite, of New York; and "Antiseptic Midwifery," by Dr. H. J. Garrigues, of New York.

TYPHOID FEVER IN THE UNITED STATES.—About twenty-five thousand deaths from typhoid fever occur in this country annually, and this represents fully one hundred and fifty thousand cases of the disease. The hundred and twenty-five thousand persons who recover lose six weeks out of their lives, and carry perhaps some vestiges of the fever's influence for years.—*Med. News.*

REGULATION OF VETERINARY MEDICINE IN NEW YORK.—The passage by the last legislature of the bill to regulate veterinary practice, makes New York the first State to undertake this work. The law compels the registration of veterinarians at the county clerk's office, and makes it incumbent on those registering to have a diploma.

THE YELLOW FEVER COMMISSION.—The Washington correspondent of the *N. Y. Med. Jour.* says that while the Senate has passed the yellow fever commission bill, some opposition on the part of some of the friends of the late National Board of Health, and some sentiments of frugality, induced Congress to amend the bill so that it now provides for the detail of two officers already in the service, but with the proviso that they must be skilled in bacteriology and microscopical research. No provision is made in the bill for the appointment of a member of the commission from civil life, but the employment of experts is allowed.

BRITISH MEDICAL ASSOCIATION.—Dr. W. T. Lusk will read a paper on The Proper Moment for the Performance of Gastrotomy in Abdominal Pregnancy, and Dr. T. A. Emmet one on Certain Mooted Points in Gynæcology, before the Section of Obstetric Medicine at the approaching meeting of the British Medical Association at Brighton.

DR. OLIVER WENDELL HOLMES, in company with the Right Hon. John Bright and others, received the honorary degree of D.C.L. at the Sheldonian Theatre, Oxford, on June 30, in the presence of the Prince and Princess Christian.

INCREASED DEATH-RATE IN NEW YORK DUE TO THE HOT WEATHER.—During the week ending at noon July 10, 1,111 deaths were reported in this city, an increase of 203 over the number of deaths in the corresponding week of last year. Of the total deaths, 683 were of children under five years of age. No provision has been made this season by the Board of Estimate and Apportionment for the appointment of the usual summer corps of visiting physicians among the tenement house population.

LARGE DEATH-RATE AMONG NEGROES.—The last mortuary report of the Health Officer of Savannah shows a death rate per 1,000 of the population of 12.19 for the whites and 122.94 for the colored people. This is bad enough, but the mortality of the colored children is even worse, being at the rate of 601.03 per 1,000. At this rate of mortality the average duration of life among the negroes of Savannah is but little over eight years, and this when the city is free from any epidemic disease. It is caused by imprudence, by lack of the proper care and attention. The negro children are neglected, receive no nursing, fail to get the medical attendance, the medicine, or food they require. They live, even when in good health, in the most unsanitary condition, and defy all the laws of hygiene. Every Southern city is suffering from this same trouble. Its death list is swollen by the thousands of ignorant negroes who fall victims to their carelessness and imprudence. Diseases are nursed in its negro quarters; small-pox, measles, and scarlet fever linger there, when they have been driven out from all the white districts. The evil is growing worse from day to day. There has been no sanitary improvement among the Southern negroes, no decrease in mortality. Each year shows a worse condition of affairs.—*New Orleans Times-Democrat*, June 15.

ANOTHER VICTIM OF THE COCAINE HABIT.—Dr. J. W. Underhill, of Cincinnati, has become reduced to such a pitiable state through the habitual use of cocaine that it is necessary, it is said, to have him committed to a private insane asylum.

PASTEUR'S METHOD OUT OF PARIS.—During the past month Dr. Valentine Mott, of this city, who was entrusted with an inoculated rabbit by M. Pasteur in May, has been making hydrophobic inoculations in the case of a young son of Dr. W. H. Newell, of Jersey City, who was bitten in June by a dog supposed to be rabid. In Milan, Italy, Dr. Barattieri, who has also been studying M. Pasteur's methods in Paris, has been provided with a temporary laboratory for similar purposes; and a dispatch to the London *Daily News* from Odessa announces that from the 24th inst. all persons in Russia bitten by rabid dogs and wolves will be treated in that city by Dr. Gamelei, for whose initiatory operations virus has been supplied from M. Pasteur's laboratory.

TYPHOID FEVER IN WISCONSIN.—A very severe epidemic of typhoid fever has recently occurred in Wanford, Wis.; entire families, in some instances, being attacked with the disease.

THE CHOLERA IN EUROPE.—A dispatch from Vienna, dated July 12, states that in Trieste during the previous 24 hours two deaths from cholera and eight new cases were reported. On July 14 there were reported three new cases and one death at Trieste, and at Fiume, six new cases and three deaths. The cholera returns for the 14th in Italy, were: Brindisi, 115 new cases, 36 deaths; Fontana, 44 cases, 17 deaths; Latiano, 25 cases, 10 deaths; San Vito, 20 cases, 1 death; Cardigoro, 3 cases, 2 deaths. During the four days ending with the 14th, at Brindisi the total number of new cases reported was 461, and of deaths, 168; while at Fontana there were 191 new cases, and 92 deaths. Since then the disease has abated to a considerable extent.

DEATH OF DR. RICHARD H. COX.—Dr. Richard H. Cox died of paralysis, June 20, 1886, at his home in West Point, Va. He was ill only two or three days. His sudden death will be sad intelligence to his large circle of friends, especially in Virginia. He was born in Essex County, Va., November 24, 1824. He graduated from the Medical College of Virginia in 1843. He practiced in King William County, Va., until about six years ago, when he moved to West Point. His practice was one of the most influential county practices we have ever known. He was a man of great ability, made strikingly useful to the communities in which he lived by his great generosity. During the war he was surgeon in the Confederate army. He was, time and again, elected Professor in various institutions, but declined all such honors. His loss to the Medical Society of Virginia will be felt severely. While in the Legislature of Virginia, he was ever alive to the interests of his profession.—*Virginia Med. Monthly.*

DEATH OF DR. A. K. TAYLOR.—Dr. A. K. Taylor, a prominent physician of Hot Springs, Ark., died at his residence in that city, June 19.

EDITORIALS.

MEDICINE OF THE FUTURE.—The above is the title of the Address in Medicine which the late Dr. Austin Flint prepared for the approaching meeting of the British Medical Association at Brighton.* This was his last literary work, and it will be found to be a strongly characteristic effort, and eminently worthy of his exalted reputation.

Referring at the outset to his own retrospections, which extended over half a century, he says it is worth while to inquire, How will the present appear in a retrospective view at the end of the next fifty years? And in the spirit of this inquiry he submits his thoughts on the medicine of the future.

The progress of medicine advances by means of discoveries and improvements which mark epochs in its history. Having glanced at the epochs in medical advance during the past fifty years, and briefly compared them with those of the preceding half-century, he asks if the history of medicine does not show a steady acceleration in progress, so that, judging by the past, these next fifty years will be richer in epochs than the fifty years just past. It seems probable to him that our knowledge of the organs, tissues, and chemical constituents of the body has not reached its limitations. The construction of the microscope may admit of further improvements. The illumination of microscopical objects may be increased. The practical applications of the spectroscope may be enlarged. The developments in optics may permit new methods of observation. Analytical chemistry, again, carries investigation beyond the limits of microscopical observation, and it seems a rational anticipation to look for future results from chemical analysis of the components of the body in health and disease, which in brilliancy and practical utility may soon surpass those of the labors in the latter field of investigation during the last half-century. How is it that secretions, excretions, nutrition, growth, and certain morbid products are brought about? This question cannot be answered with our existing knowledge, and the answer must come from organic chemistry. The supreme objects of study in pathology, at the present time, are the discovery of micro-organisms and their natural history; but these agents, it is probable, are pathogenetic, not directly, but indirectly, by means of the toxic products of their activity. What are these products, and how do they give rise to the phenomena of disease? We may ask the same question, also, of certain of the poisons introduced from without the body; and for the answer we shall have to look also to the organic chemistry of the future.

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*Medicine of the Future: An Address Prepared for the Annual Meeting of the British Medical Association in 1886. By Austin Flint, (Senior), M.D., LL.D. New York: D. Appleton & Company.

In speaking of the probable improvements which will be made in the facilities for physical diagnosis Dr. Flint expresses the positive conviction that the principle of the telephone will, by-and-by, be applied to intra-thoracic respiratory and heart sounds, so that they will be transmitted to the ear with more distinctness than they now are by the binaural stethoscope. The various intra-thoracic sounds will then be so easily observed as to render the physical diagnosis of affections of the heart and lungs in all cases a very simple problem. More than this, he thinks that the future clinical teacher will be able to demonstrate auscultatory sounds to a class of students comfortably seated in the lecture-room or hospital amphitheatre, and that it will be possible to have such sounds transmitted from the patient to the physician, no matter how distant the one may be from the other. Again, and still further, the time will come when the sounds from the chest of a patient may be phonographically registered, transported never so far, and made available after an indefinite period. All these results will not be more wonderful than the invention of the telegraph, the telephone, the microphone, and the phonograph, all of which have been devised within the last half-century. In concluding this portion of the address, he remarks: "At the present day we may say, Who knows but that, with improvements in instruments for the conduction and intensification of sounds, one may study normal and abnormal conditions of the circulation in all the internal organs of the body, by 'the sounds they make' in the processes of secretion, of nutrition, and of morbid growths? It can hardly seem an extravagance to predict this of the future developments of auscultation to one who has listened, with the aid of the microphone, to the footsteps of a fly."

While referring to progress, past and future, in the knowledge of the natural history of diseases he says: "With the now-prevailing views, it seems a surprising statement that phthisis pulmonalis may be self-limited and end in recovery, purely from an intrinsic tendency; yet I venture the assertion that the correctness of the statement has been substantiated, and that before many years elapse it will be generally acknowledged to be a clinical fact."

Dr. Flint does not think there is much risk in hazarding a prediction that, long before the expiration of the next half-century, no practitioner of medicine will be without a lancet at hand for immediate use; so that there will then be no longer pertinency in the title of the paper written a few years ago by the late Professor Gross in reference to venesection, namely, "A Lost Art in Surgery." Physicians, he believes, will take advantage of the promptness and efficiency of its effect in certain conditions of disease, and will observe a proper conservatism as regards its potency for harm as well as good. To carry out the principle of rejecting remedies because they are capable, if used without due discrimination and discretion, of doing harm, would be to emasculate the materia medica; and in the ability to employ potential agencies so judiciously as to receive their good and avoid their evil effects lies the secret of true success in the practice of medicine.

In introducing the subject of bacterial etiology, which he designates as the crowning epoch in the medical history of the last half-century, he remarks with the glowing enthusiasm so characteristic of his lofty nature, "My own impressions in respect to the interest and importance of this topic are such that my remarks will perhaps be considered as illustrative of that tendency to exaggeration and extravagance of utterance which is one of the peculiarities of the American people. We are entering upon a revolution in medicine. It is bewildering to project the thoughts into the future in order to foresee changes which will be brought about, in the coming half-century, in our knowledge of the causation of diseases and the results as regards their prevention and treatment." He does not propose to inquire how many of the infectious diseases have already been proved to be due to specific micro-organisms, or to discuss the evidence in regard to diseases which admit of doubt concerning the completeness of the demonstration. It is enough for his purpose that this truth has been demonstrated in but a single instance, as the point which he makes is, that, assuming the truth of the parasitic origin of any one of the infectious diseases, it is a logical inference that this truth is applicable to the other diseases of that class. If relapsing fever be shown to depend on a *contagium vivum*, small-pox and the other eruptive fevers have a similar dependence; and if yellow fever be parasitic, so is intermittent fever. Hence, if this reasoning is correct, it is simply a question of time as to the discovery of specific organisms for all the infectious diseases.

Having acquired knowledge of the natural history of the different species of parasitic organisms, a great practical object is, of course, to find means for their destruction within the body. The parasiticides in cases of malarial fever were long ago discovered, although it is not certain that the parasite itself has as yet been described. Here is a disease completely under control by remedies the efficacy of which is to be explained by their distinctive effect on a specific organism; and if all the infectious diseases were as completely under control, it could scarcely be an exaggeration to say that a revolution in medicine had taken place. This revolution, Dr. Flint confidently believes, will hereafter be dated from the recent discoveries in bacterial etiology.

But to find an efficient and safe destructive agent for each species of pathogenic organism, together with an effectual method in its employment, is not the only object to be kept in view in order to control infectious diseases. The presence of parasites is but one factor in the etiology of these diseases. Conditions favorable for the lodgment, growth, multiplication and colonization of parasitic organisms—conditions which constitute a peculiar predisposition—are not less essential; a point which is most admirably brought out in the paper on the nature of scrofulous glands in the neck recently read before the Academy of Medicine in Ireland, by Mr. Kendal Franks, which is published in the present issue of the JOURNAL. If these conditions can be removed, the control will be as complete as if effected by parasiticides. Ground is as yet hardly broken in this field; but it seems probable that labors in this direction may be more speedily successful than efforts to discover toxic agents which destroy pathogenic organisms, while leaving the patient unharmed. The destruction of organisms outside the body by disinfectants, and by the removal of all the accessory conditions necessary to their existence, together with their effectual exclusion from the body, is likely to reduce the fatality from infectious diseases, in the order of Providence, much sooner than the discovery of effective therapeutic agents. Moreover, there are present intimations of important discoveries respecting inoculations with attenuated viruses and contagia in order to forestall the development of such affections; and here open up to the imagination the future triumphs of preventive medicine in respect to all classes of disease.

Having referred briefly to certain pathological conditions, of which little or nothing is now known, which await important developments of knowledge in the future—among which he mentions problems in connection with the spleen, the liver, the chylopoetic and hæmatopoetic systems, the gastric and intestinal glands, the thyroid body and supra-renal capsules—Dr. Flint passes on to offer some thoughts concerning medical literature, medical instruction, and the medical profession of the future. "With each successive decade in the last half-century," he says, "the medical press has been more and more prolific. The fecundity is likely to increase, rather than diminish. There is no prospect of a menopause. What a progeny may be expected at the end of the next half-century! * * * The truth is, that, at the present time, and still more in the future, the range of reading and study must be restricted, in a great measure, to limited parts of the vast field of medical literature." The necessity for condensation and conciseness, he thinks, will become imperative, and it will be requisite that works shall contain a fair synopsis of their contents, so that judgment can be formed beforehand whether time will be wasted in a careful reading from cover to cover. Voluminous encyclopædic works have probably had their day; and there is reason for thinking that text-books which assume to extend over the whole domain of medicine will soon belong to the past.

In regard to medical instruction, he holds that more teaching and more teachers are indispensable, and the amount of teaching and the number of instructors must continue to increase. Special branches require special teachers, and the number of special branches will multiply. Observation of the phenomena of disease, together with practical exercises in diagnosis, and the applications of therapeutics to individual cases, are to the study of medicine what experimental illustrations are to the study of chemistry and physics; and he predicts that didactic, except as complemental to clinical, teaching, will be more and more restricted, and perhaps at length be discontinued. Besides, teaching and practical work in the histological laboratory will also henceforth form an essential part of medical instruction.

As to the ideal physician of the future, his practice will exemplify more knowledge of pathology and etiology, together with advancement in therapeutics and prophylaxis. He will not, perhaps, be better appreciated, but there will be a truer estimate of medical knowledge and of the medical profession. Dr. Flint regards it as a pleasant thought that hereafter the practice of medicine may not be so closely interwoven, as hitherto, in the public mind, with the use of drugs. The profession will have reached a high ideal position when the physician, guided by his knowledge of diagnosis, the natural history of diseases, and existing therapeutic resources, may, with neither self-distrust nor the distrust of others, treat an acute disease by hygienic measures without potent medication. When this time comes, a system of practice which assumes to substitute medicinal dynamics for the *vis medicatrix naturæ* will have been added to the list of by-gone medical delusions.

In conclusion, Dr. Flint adds a word of warning in regard to the growth of specialism, which he regards as certain to increase in the profession. It is true that specialism conduces to the advancement of knowledge, and that it is made necessary to a certain extent, by the unavoidable subdivision of medical literature and medical instruction into special departments; but it behooves us to consider what would become of the medical profession if the practice of medicine were to be given up to specialists. "With due appreciation of services devoted to special branches of medical knowledge," he continues, "there are tendencies pertaining to the practice of a specialty that should not be overlooked. I shall only allude to the danger of what may be called professional demoralization. * * * A dangerous tendency is to such a limitation to a specialty as will lead to withdrawal from the common interests of the profession. A medical specialist should not thereby, in his sentiments and conduct, be any the less a physician; the honor, dignity, and usefulness of the profession, as a whole, should be as sacred in his estimation as if he was not a specialist. If the effect of specialism be otherwise, alas for the medical profession of the future, as regards the respect of others and the self-respect of its members! For one, I cannot believe that, in the order of Providence, the destiny of this profession is its degradation. The history of medicine has made the medical profession most honorable, and I believe that it has a glorious future."

The whole of this impressive essay is full of suggestiveness, affording the most ample food for thought; and it is no less notable for the reverent spirit of implicit trust in the Divine beneficence which charactizes it throughout. "If we believe in an overruling Creator and Governor of the universe," says Dr. Flint in introducing his subject, "everything, however great or however small, must be in an accordance with a divinely ordered plan. Diseases doubtless have their uses—some of which are apparent to human comprehension—and their prevention and successful management also enter into providential design. The past gives an assurance of progressively increasing security of human life from diseases; and the progress of medicine belongs therefore, in the order of Providence." The address is, then, peculiarly gratifying as the last utterance of its distinguished and lamented author, and as the publishers have brought it out in a style of rich, but simple, elegance, and prefixed to it a life-like and admirable portrait from a photograph by Falk, the volume constitutes, altogether, a most fitting memorial of the departed master.

THE DESTRUCTION OF OUR BIRDS.—Since the issue of the July number, the Committee on Destruction of Native Birds of the Natural History Society of Cincinnati have made a report which, notwithstanding the address made before them by Dr. Langdon, the aim of which was to show that the existence of the song birds of North America is not seriously threatened by the present death-rate among them, will be seen to be entirely in agreement with the views expressed in the bulletin of the Committee on Protection of Birds of the American Orinothologists' Union, to which extended reference was made in the JOURNAL last month. This report, which was at once adopted by the Society, is as follows:

Your committee report as follows in the matter submittted to them, and state that they have carefully investigated the subject of the destruction of our native birds, and several papers have been prepared and read at three meetings of this society. They find:

First—That native birds of many species have greatly decreased in numbers over large areas of the country. This is particularly true of those water and game birds about which it is comparatively easy to obtain statistics.

Second—That the chief cause of such decrease, in addition to climatic changes, natural enemies, clearing up the country, etc., are, the direct destruction of birds for their skins and feathers for decorative and millinery uses, the trapping of birds for cage purposes, the destruction of eggs and nests by men and boys, and the introduction of the European sparrow, (*Passer domesticus,*) which occupies the nesting places of many native species. Three of these causes are preventable, and the evil results can be greatly lessened, first, if no birds be used for decorations; second, it none of the song birds and insectivorous species be used for food; third, if the laws protecting certain species be backed by stronger public opinion and be more rigidly enforced; fourth, if thoughtless men and boys could be shown the great economic value of birds, and taught the desirability of protecting them and their eggs.

Your committee find that a widespread discussion of the bird question shows more interest in "our feathered friends" than they had hoped for, and they trust that Cuvier clubs, Audubon societies, and other clubs of like aims, will continue to flourish on all sides until public sentiment is entirely opposed to the destruction of our native birds.

COMPULSORY SWIMMING IN SCHOOLS. The *Lancet*, in a recent issue, refers to the fact that compulsory instruction in swimming has found favor with some continental communities, and recommends the adoption of a similar course in England. "All children, as is well known," it says, "do not take readily to bathing, while of those who do, some never take the trouble to learn to swim. Thus it comes about that persons who have spent their lives at the coast—many fishermen, for example—are helpless when immersed in deep water. There is reason therefore in the argument that swimming should form a regular part of school training, and should be compulsory on boys and girls alike, who are not disqualified by bodily infirmity. Even children of poor physique, if not vitally damaged by disease, will often benefit by such a course. Not only is the vigor of every organ and tissue stimulated by the bracing chill of cold bathing, but the skin surface which is cleansed from the products of its excretion must also subserve, much more effectually than one which is not, the nutrition, purity, and working power of the more active organs. Health, without doubt, is largely indebted to a clean skin. In swimming we have these various physiological advantages, with that of muscular effort added, and when we think again of its great utility in case of such accidents as every summer invariably brings us, we cannot but plead that the kind compulsion exercised abroad may also be applied at home." While it would perhaps scarcely be practicable to enforce compulsory instruction in swimming in this country, there can be no question that all our population who are in the enjoyment of health should be able to practice this delightful and useful art, and that vastly more attention should be paid to its cultivation by those in charge of the training of the young than is at present the case. Comparatively few of our schools, either in town or country, are so situated that sufficient facilities for bathing could not be secured if the proper public interest could be excited in the matter, and the general introduction of instruction in swimming into the curriculum of public and private education, would, it is needless to say, be of incalculable advantage to the children. While a considerable proportion of all American boys now acquire the art, the number of our girls who do so is extremely small; and it is especially among girls' schools that this addition to the curriculum should be made. To say nothing of the great physical benefit to be derived from the practice, it would tend to greatly diminish the annual mortality from drowning. Not only would our women and girls be able to save themselves in many cases of accident upon the water, but they could also lend a helping hand to others when occasion required. A striking instance of the latter kind, it is worthy of note, happened during the past month among the Ramapo Mountains in New Jersey, where a gentleman who slipped from the rocks upon its shore into a deep lake was skilfully rescued from drowning by his sister, who had learned to swim when a little girl, and did not hesitate to plunge boldly into the water after him.

SPECIAL NOTICE. The Editor wishes it to be distinctly understood that he does not hold himself responsible for the views expressed in articles contributed to the JOURNAL.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLIII. NEW YORK, SEPTEMBER, 1886. No. 3.

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ORIGINAL ARTICLES.

ARTICLE I.

A CONTRIBUTION TO THE ETIOLOGY AND DIAGNOSIS OF POTT'S DISEASE.* By LEWIS HALL SAYRE, M.D., New York.

Mr. President and Gentlemen :

I shall occupy but a few moments of your time this evening in drawing your attention to the symptoms which mark the early stages of spondylitis before it has produced deformity, and to one point in particular which may aid you in making a diagnosis while the disease is still in this early state; thus enabling you to place the patient upon a proper plan of treatment, arrest the progress of the disease, and prevent the occurrence of the deformity from which so many suffer during the remainder of their lives, because the true nature of their malady was not discovered until irreparable damage to the spinal column had already been done, and the appearance of the dreaded knuckle gave positive information as to the disease from which the patient may have suffered for a considerable period of time, and for the relief of which many things may have been tried.

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*Read before the New York County Medical Association, May 17, 1886.

The symptoms accompanying spondylitis in its earliest stages are vague and not of a character to call attention directly to the spine, and unless the examinations of the patient are conducted with great care and minuteness the disease is often not detected before the lapse of many months; and not infrequently the first suspicion of the true nature of the disease is brought to the mind of the attending medical man when the mother shows him the "knuckle" which she has probably discovered while bathing the child, and which can never be obliterated, being caused by destruction of certain structures of the spinal column. I will not detain you with a discussion of the causes which give rise to this disease, as this question has been very fully and frequently entered into within the past few years, but will only state that I side with those members of our profession who look upon traumatism as the exciting and necessary cause, which in a constitution already vitiated need be much less severe to produce spinal or other grave lesions than in a person of vigorous and robust health.

A child is noticed to be fretful, irritable and peevish, restless in his sleep, his digestion is impaired, he has pain in the abdominal and thoracic region, with a peculiar sighing respiration, and walks and plays with the body held in a peculiar, constrained position; when standing, he rests his hands upon his knees, or upon some object, such as a chair or table, and complains of slight pain when he is exposed to any jar or concussion, or when he is lifted from the floor.

There is no deformity or obliquity of the spinal column, neither is it painful when pressure is made on the spinous processes, and a diagnosis of some slight thoracic or abdominal trouble is made, and appropriate treatment given, which is continued for some time without marked benefit, until the protrusion of the spine reveals the true disease and the cause of the various symptoms which have been so resistant to treatment.

The disease in its inception attacks the bony part of the spine in its anterior portion, and at first is an inflammatory process. This is followed by absorption and necrosis, and the formation of pus and abscesses in many cases; and finally anchylosis of two or more vertebræ results, after a period of treatment of longer or shorter duration. The careful and thorough examination of a child who presents the train of symptoms I have described will often reveal a case of spondylitis, and I must urge upon you to examine the spine of any of your patients who complain of thoracic or abdominal troubles which do not yield readily to appropriate treatment, unless disease can be discovered in these regions sufficiently serious to account for the long duration and non-success of treatment.

To examine the spine it is necessary to have the patient unclothed, and then observe if there is anything peculiar in his attitudes or motions. Does he keep his body as nearly motionless as possible, with the shoulders thrown back and the chest elevated, and head thrown back? Does he rest upon his mother's lap, or lean with his hands upon his thighs, or upon the table and chairs? When asked to pick up anything from the floor, does he bend or stoop down naturally to do it, or does he bend the knees and hips, and, squatting down, reach the object of his search without bending his body? Does he walk with a peculiar cautious step, keeping the knees and hips bent, and when asked to jump from the floor, does he, when alighting, do so with flexed knees and hips, and, by descending upon the toes, diminish, as much as possible, any jar or concussion which might be caused by this manœuvre? Should these manifestations be present, a grave suspicion of spinal disease should arise in your minds. Then place the child, face downwards, across your thighs, with the head and arms hanging over one thigh and the legs from the hips over the other. Then bring your knees together, so as to bend the body forwards, and at the same time make pressure on the head and sacrum, so as to crowd the spine together, and see if pain or discomfort be produced. The pressure should be gradual and moderate in amount. There is no need to strike the child upon the top of the head a sudden and quite severe blow. Then separate your knees, so as to make gradual and gentle extension of the body, and notice if there is any relief. Frequently the peculiar sighing respiration will entirely disappear while this extension is being made, to re-appear as soon as it is discontinued. Bend the body in all directions, and notice if the movements are free, or impeded by muscular rigidity, and also if they cause pain.

In many of the text-books it is stated that pressure upon the spinous processes causes pain in spondylitis. I have very often found it to be the reverse, as this pressure separates the bodies of the vertebræ, and, by removing the inflamed surfaces from contact with each other, gives relief. There is another point of great importance in the examination, and one to which I wish to draw your attention particularly, and which is not mentioned in any of the standard works on this subject, with but two exceptions, to my knowledge.

There are certain cases in which the disease commences on the *sides* of the bodies of the vertebræ, at the point of their articulation with the ribs, and not in the anterior part of the bodies, as is commonly the case. They are usually caused by some violence applied to the rib, which originates an inflammation at its articulating facet on the spinal column. These cases are more than ordinarily obscure in the commencement, and are difficult of diagnosis, as pressure on the head seldom causes pain, and the child can run and sometimes jump without pain, and can often bend the body without inconvenience, while it may have very little muscular rigidity. Do not conclude your examination or give an opinion until you have examined the articulation of each rib with the spine. Placing the child across your lap in the manner before described, make firm pressure upon each rib so as to bring it into firm contact with its articulating vertebra, and when you reach the ribs which articulate with the inflamed or diseased vertebra, either pain will be produced or a muscular spasm, very similar to that caused by "point pressure" on a "contractured" tissue, will take place. These manifestations of troubles may also be produced by pressure made on either side of the spine over these articulations.

I wish most particularly to draw your attention to this place of possible commencement of spondylitis, and the mode of its detection, as I have seen several cases where the only point of tenderness was in this situation, and there were no other symptoms beyond the general malaise and peculiar attitude and gait to lead to the suspicion of spondylitis. By the commencement of proper treatment at that time, they have recovered with almost inappreciable deformity, although a very slight protrusion of some of the vertebræ when the body is strongly flexed is present to attest the correctness of the diagnosis. The histories of two of these cases will close this paper, which I hope may be the means of aiding in the detection of spondylitis before deformity occurs and the care of this insidous disease before irreparable damage shall have been done to the appearance and enjoyment of those unfortunates who are attacked by it.

Case I.—Harry L——, aged 13 years, 6 months. Last autumn the patient fell from a loft, striking upon the pavement 10 feet below, and was insensible for an hour. Some time afterwards he was kicked in left side. Last Christmas, while at home from boarding school, he complained of pain in right leg. Since then he has complained of pain in that leg, and a "hungry feeling" in stomach; also that his back feels tired. Yesterday, while walking, felt a "sudden weakness" in the legs, and fell.

On examination, there is no deformity, and he can bear compression on head and shoulders without pain, unless the body is bent very much forward, when it causes severe pain. Pressure laterally over the eleventh rib causes pain. No pain produced by pressure on other ribs. When very slight extension is made by head and axillæ, patient says he is relieved from all unpleasant feeling in the small of his back, which is otherwise always present, and he can bear more pressure on the eleventh rib without pain than when not suspended.

Diagnosis: *Spondylitis of dorsal vertebræ.*

A solid jacket was applied while the boy was suspended. When it had set, he was perfectly comfortable, and said the uncomfortable feeling in back had disappeared. Two weeks later he returned from school, having broken the jacket. Has been rowing, contrary to directions, and also played out-doors all the afternoon after the jacket was applied, and before it had become dry and hard.

On removing the jacket, a very slight prominence can now be seen in the dorsal region, slightly more marked when the body is bent forward. Has had no pain in leg, and has felt better and stronger in every way since jacket was applied. Can study more and feels brighter. New jacket applied—which made him perfectly comfortable. If the projection is increased when the jacket is next removed, a jurymast will be applied in addition.

Case II.—May 2, 1879. May A——, aged eight years, a strong, robust girl, of healthy parents. Has always been well until three months ago, since which time she has complained of pain in the abdomen, and has had some trouble with her digestion. Does not want to play or exercise, and complains, during the past month, of pain after walking or riding over a rough road. Has been treated for dyspepsia and kindred troubles, but without benefit. On examination, find a strong, robust, and well-developed girl. No deformity of the spinal column can be detected. Pressure upon the head and shoulders causes no pain. She can bend the body forward and backward without pain or discomfort. Rotation of the trunk upon the pelvis causes some discomfort. Pressure over ninth and tenth ribs causes intense pain, more severe on the right side. The surface thermometer indicates increased temperature at the articulation of these ribs with the spinal column. Suspension relieves her from a sense of constriction about the abdomen. Diagnosis, spondylitis of ninth and tenth dorsal vertebræ.

Treatment.—Placed the child in bed in the horizontal position, with ice-bags applied to the tender point for six or eight hours daily for ten days, which diminished the pain considerably.

May 14. Suspended the patient and applied a plaster jacket. When set and perfectly dry, the child is perfectly comfortable and states that she has no pain.

May 20. Has been free from all gastric disturbance since jacket was applied. Has more color in her face and is perfectly free from pain.

September 20, 1879. Has been in the country since July, and has been perfectly well and free from all trouble. Jacket removed. Skin in good condition; no excoriations. Spine straight. On bending forward a very slight prominence of the ninth and tenth dorsal vertebræ can be detected. Pressure on ribs causes slight pain.

New jacket applied February 12, 1880. Jacket removed. Can bear pressure on ribs without pain. The prominence of the dorsal vertebræ when the body is bent strongly forward is not more than in September last. Is in perfect health and engages in all the amusements of her [illegible] A plaster corset applied, to be worn as a protection. [illegible] Returned to see if she could leave off her plaster corset. [illegible] and has grown considerably. On [illegible] the spine, except when body is [illegible] caused by movements of the [illegible] or on head, or by jarring [illegible] pain since jacket was [illegible] cured, without [illegible]

ARTICLE II.

PTOMAINES. AN ETIOLOGICAL HYPOTHESIS.

By L. B. ANDERSON, M.D., Norfolk, Va.

The time surely has come when medical philosophers should cease to accept as facts, conjectures, no matter how plausible, unless it be for the time, to subject them to the most scrutinizing logical tests. In the course of medical history many important, essential, and irrefragable facts have been collected, which must ever stand as beacons to direct the course of future investigations. But how often is it the case that mere conjectures are promulgated as facts, which are in direct conflict with these long-attested logical demonstrations? We are about to submit an hypothesis, based on very many well authenticated facts, as to the etiology of the so-called idiopathic fevers, zymotic diseases, cholera, plague, etc. We shall ask no one to accept it, farther than the well authenticated facts which may be given, and the logical deductions therefrom, may fully justify. These facts have been presented to the profession in this country in such a fragmentary and scattered manner as to make it no easy task to collect and cöordinate them. I shall, however, present to your consideration all, or nearly all, which have come under my observation, omitting, as far as practicable, the surmises of the writers; and, in conclusion, making such a logical deduction from, and such a practical application of, them as their weight and importance may seem to demand. In the meantime, I hope my readers will give the facts, deductions, and practical application a candid and scrutinizing investigation.

In Thomas' Medical Dictionary "Ptomaine" is thus defined: "From Greek, Ptomo—any dead body, a carcass, etc." "A term applied to certain peculiar substances (resembling alkaloids) which are produced during the process of putrefaction. Some of these cadaveric products are narcotic, like morphine; others resemble strychnine or atropine in their physiological action."

In Quain's Dictionary of Medicine we find under Ptomaines the following: "Under this name we find a class of bodies has been described, which are stated to be the baser products of the decay of animal matter, and to which Selmi and others have assigned poisonous properties. Panum first showed that by the putrefaction of albuminous matters a soluble ferment is produced, which is poisonous. Fagge and the writer also showed in 1865 that the alcoholic extracts of many post-mortem liquids taken from the human body are, even when exposed to the temperature of the water bath, poisonous when injected beneath the skin of animals. Sonnenschein, Zuelzer, Bergmann, and Schwenninger more or less confirmed these observations and added to them. Selmi is, however, the observer who has chiefly worked at the cadaveric alkaloids. According to Selmi, some of the ptomaines, or alkaloids generated during decay, and closely resembling the vegetable alkaloids, are formed in the living body during the process of such diseases as peritonitis."

In the London *Lancet* for November, 1883, Mr. Wolfenden gives the following *résumé* of the facts concerning the ptomaines:

"Though the term ptomaine was first applied by Selmi to those bodies to indicate they were of cadaveric origin, their distinction is no longer to be limited to the cadaver, but investigations are rendering it more and more probable that alkaloids of a poisonous nature occur in certain pathological conditions, and possibly also normally, as a product of change of living tissue. Selmi's first observations were made on bodies dead of arsenical poisoning, and it is of interest to refer to his methods. The liquid under observation was made alkaloid by baryta water, and then extracted by ether; acicular crystals were produced, which precipitated the principal reagents that alkaloids answer to, with the exception of platinum chloride. Selmi's second attempt was made by extracting the liquid with aqueous alcohol, then making alkaline with baryta, shaking with ether, ridding of the ether by spontaneous evaporation and distillation, treating the turbid liquid thus left by water acidulated with acetic acid, filtering and evaporating to dryness; taking up the residue with water, again rendering alkaline with baryta and extracting with ether, and repeating the process till the liquid becomes colorless. The alkaloid thus extracted was so poisonous as to destroy frogs with the greatest rapidity. Both of these extracts were free from arsenic. Subsequently, Selmi extracted from the stomach of a hog which had been kept on arsenious acid a compound of an alkaloid (ptomaine) and arsenic, of an intensely poisonous nature, and resembling very much the vegetable alkaloid strychnia. As to their manner of production, Selmi supposed them to be of putrefaction of organized nitrogeneous material. They are variable in their nature according to the length of time after death, and though not present within a few hours after death in any appreciable quantity, they slowly develop with advancing decomposition. Indeed, it is only with extreme difficulty that in medico-legal cases they can be distinguished from true vegetable alkaloids, if the post-mortem examination be delayed; but probably if made within twenty-four to forty-eight hours after death, any alkaloid found then would be a vegetable and not a cadaveric one. In general, these ptomaines are oftenest amorphous in form and alkaline in reaction. They are for the most part volatile and easily alterable. They form crystalline salts with acids as a rule. The addition of acids to them usually changes them, with the production of pleasant odors, like orange flower, musk, etc. Allowed to oxidize by contact with the atmospheric air, they emit disagreeable cadaveric or urinous odors.

"Some of these ptomaines are not poisonous, but most possess strongly toxic characters, and cause profound symptoms when injected under the skin—such as paralysis, more or less complete of hinder extremities, dilatation of pupils, convulsions, muscular flaccidity, slowering or acceleration of the heart, loss of cutaneous sensibility, possessing many of the characteristic physiological actions of muscarin or atropin. They answer to nearly the same reactions as the vegetable alkaloids, some being precipitated by platinic chloride, gold chloride, mercuric chloride, or tannic acid, etc.; and all have a strongly reducing action on potassic ferrocyanide. They yield color reactions with sulphuric acid (red), iodic and sulphuric acid (violet), nitric acid (yellow), etc. Their physiological properties are really their own physiological properties, distinguishing them from all other alkaloids.

"These ptomaines are met with under the following conditions:

1st. *As a Constituent of Normal Tissues or Juices.*—

"If from twenty to thirty centimetres of fresh saliva be taken and evaporated over a water-bath to dryness, and the residue extracted with boiling water and filtered, a toxic substance is obtained which is strongly reducing, and converts ferrocyanide of potassium, along with one or two drops of ferric chloride, into Prussian blue. Injected into the thigh of a frog with a Pravaz syringe, it kills the animal in a longer or shorter time.

"Snake poison differs from human saliva only in the intensity of its action. Gautier has extracted from the poison of trigonocephalus and naga two distinct alkaloids, and a third which resembles either an alkaloid or an albuminous compound.

"Gautier has obtained from normal urine a fixed oxidizable alkaloid, which forms a crystalline chloride, and also a crystalline double salt with platinic and gold chloride. This alkaloid is very poisonous, killing quickly with systolic standstill of the heart, stupor and paralysis.

"Selmi, in recent pathological observations, has made the following discoveries:

"In the urine of patients suffering from progressive paralysis there are two volatile bases: the one like nicotin, the other like coniin. In the urine voided during interstitial pneumonia were two alkaloidal bases: one having the odor of stinking fish, the other of ammonia. Two similar bases were found in the urine of patients with abdominal typhus. In tetanus, a base like coniin was discovered in the urine. In the urine of milliary fever, an alkaloidal base having the odor of stinking fish was observed.

"Since Selmi first described the production of ptomaines in connection with dead bodies, his facts have been abundantly confirmed and extended. Stinking fish, bad meat, etc., all contain poisonous principles which can be extracted after the manner of ptomaines.

"Brieger has obtained by the decomposition of neurin final products of trimethylamine, and a volatile body giving the iodoform reaction, which he suggests may be identical with these volatile substances in urine, which give the iodoform reaction. By decomposition of neurin and albumen toxic bodies may be obtained much resembling muscarin. Both from freshly prepared peptone, made by the action of gastric juice or pure fibrin, and from stinking peptone, by boiling with caustic soda, evaporating, extracting and purifying, toxic alkaloids can be obtained which kill frogs in a few minutes. Putrefying casein, brain substance, liver and muscle also yield these products. In the laboratory, continues Brieger, I have confirmed the observations of others as to the production of these substances, and I have also confirmed the statement of Gautier as to the production of a toxic principle from ordinary fresh saliva, which are very destructive to small animals. The investigations of Weir Mitchell on the production of snake poison are of extreme interest in connection with this point, indicating the discovery of three toxic principles in snake venom.

"Some of these ptomaines are poisonous, some non-poisonous; and it is common to find a moiety of each linked together. Some are volatile and crystalline, some not; some precipitated by ether, and some only by alcohol, amyl or chloroform.

"From the observations of Selmi, Sonnenschein, Zuelzer, Bergmann, Ciotto, Gautier, Brieger, Stard, and Neucki, the following conclusions have been reached:—

"1st. Ptomaines, like atropin and hyosciamin, crystalline, and which dilate the pupil and accelerate the heart. They are obtained from putrescent albuminous fluids.

"2nd. An alkaloid from decomposing yeast, called sepsin, and which resembles strychnia.

"3d. An alkaloid resembling morphine in its tests, but not in its physiological properties.

"4th. An alkaloid agreeing with delphinin, and which by warming with sulphuric acid gives a red color. It does not agree physiologically.

"5th. One resembling strychnia in its behaviour towards sulphuric acid and potash bicromate, but not causing tetanus.

"6th. Alkaloid like muscarin.

"7th. Alkaloids like coniin, colorless, having a sharp taste like tobacco, volatile and non-volatile. One soluble and one not.

"8th. Alkaloids like parvolin and hydrocollodin, and one like collodin."

Their origin or source is thus briefly summarized:—

"There are developed in the body, post-mortem, poisons of an alkaloidal character, and which can be obtained also by decomposition of albumen, peptone, casein, muscle, brain, etc. Moreover, they seem to be present in some normal secretions, saliva, urine, etc."

In the *American Journal of the Medical Sciences* for July, 1884, is an abstract of an article from *Gaz: Hebdom:* for April, 1884, in which the process for extracting alkaloids from putrifying masses is given by H. Maas:

"The putrefied masses, treated with alcohol and with acetic acid until there is an acid re-action, are left alone, and stirred for several days. The alcohol is then removed by filtration, and the process is repeated. The alcoholic extract is finally reduced on a water-bath, and the acid aqueous solution is concentrated to the consistence of a syrup. By further treatment with alcohol, it is possible to obtain the acetates of the alkaloids of putrefaction in a state of purity, which give all the special re-actions of the alkaloids. Experiments with the alkaloids on frogs quickly paralyze them, and death soon follows; on warm-blooded animals the effects are similar to those of strychnia. Alkaloids obtained by certain processes act similarly to morphine. By other processes alkaloids are obtained which are extremely toxic, paralyzing the heart and decomposing the blood."

In the London *Lancet* for August, 1885, an article on this subject appears, from which I make the following extracts:—

"Alkaloids as agents in the causation of symptoms of disease have grown into great prominence in the past few years. As far back as 1866, Dupré and Bence Jones noticed the presence of alkaloid-like substances in all the organs, tissues and fluids of human and animal bodies. In 1869, Sonnenschein and Zuelzer obtained from a maceration of a muscle an alkaloid having the property of dilating the pupils of rabbits and dogs. When injected into the jugular vein of rabbits, it increased the number of beats of the heart, and in two animals completely stopped the peristaltic action of the intestines. Rörsch and Fassben found in 1871, in the liver, spleen, and kidneys, by the Otto-Stass method, a body having alkaloid properties. In the same year Schevanent extracted from the putrefying intestines, liver, and spleen of a child, that died suddenly, a peculiar-smelling fluid body that dissolved in ether. On the supposition that this was an alkaloid formed during putrefaction, he analyzed the completely putrefied abdominal organs of a male corpse, and obtained a golden oil that smelt of propylamine—the hydrochlorate of which gave various re-actions like alkaloids.

"L. Liebermann extracted from a putrefying stomach a coniin-like substance which was taken up by ether from either an alkaline or acid solution. In a trial for murder by poisoning, held at Brunswick in 1874, the expert in chemistry discovered, besides arsenic, a coniin-like substance that Otto regarded as a ptomaine. It did not give the characteristics of nicotin, though resembling it in some respects. It was deadly poisonous. A similar kind of alkaloid was discovered by Brouardel and Boutmy in the corpse of a woman who had died of symptoms of cholera, and who had partaken of a stuffed goose with ten other individuals. The base was also detected in the remains of the unwholesome goose. The substance was volatile, smelt strongly of mice's urine, and gave several re-actions like those of coniin, though it differed in remaining colorless with muriatic acid, and could not be oxidized into hyturic acid. It proved poisonous to frogs. In the cadaver, dead from prussic acid, and also in another due to charcoal fumes, the same authors discovered an alkaloid having a likeness to veratrin. Extracts of the putrid tissues were made with pure or acidulated waters, ether, ethyl-alcohol, or amyl-alcohol, and injected (into frogs and pigeons). Falling off in the number of heart-beats, loss of motility and sensation, and stoppage of the heart in systole were the phenomena noted.

"The name of Selmi stands out most prominently in this field of work. It was he who first coined the word ptomaine, which indicated the cadaveric origin of the alkaloids. It is now known that bodies undistinguishable from those discovered in the cadaver occur under many other circumstances. Brieger lays much stress on the following propositions: That in the different stages of decomposition in the human body different basic principles are formed; that many ptomaines disappear, and their places are taken by others. A certain analogy exists between the above-mentioned changes and those met with in the putrefaction of albumen. Brieger has found two powerfully poisonous ptomaines in the cadaver. One of these bodies is named mydalein, which exercises marked influence over various functions of the body—severe diarrhœa and vomiting were observed in a cat after an injection of minute doses of the poison. He also investigated the nature of the products resulting from *the action of bacilli in various media. He has separated highly poisonous bases from cultivations of the Koch-Eberth bacillus of typhoid fever. Intense salivation, diarrhœa, and paralysis, were some of the effects produced by these poisons.*"

In the *American Journal of the Medical Sciences*, for January, 1886, one Gram, working in the laboratory of Schmeideberg, is quoted as affirming that "much of the so-called ptomaines which have been discovered in putrefying animal substances may be created by the chemical processes used for their separation."

In the same journal it is reported that "Ballard, a pharmacist, has discovered the presence of alkaloids in flour kept in sacks for two or three years, but that he has failed to find it in new flour."

The following is the sum of two articles found on page 686 of *The American Journal of the Medical Sciences*, for April, 1886: "Berenger-Feraud says: It is established beyond doubt that decomposed dried codfish is sometimes capable of producing poisonous effects. These effects are similar to cholerine, or cholera nostras, consisting mainly of violent gastro-intestinal irritation, which rarely ends fatally. The fungus which is often found growing on the fish is not the poisonous agent. It is the putrid flesh itself which acts poisonously. The main difference between putrid codfish and putrid sausage lies in the fact that sausage poison is more readily absorbed, and thus reaches and attacks vital organs.

"A committee appointed by the German Government, and presided over by Virchow, has recently completed its investigation of a number of cases of fatal poisoning from the eating of mussels. The mussels were found to be of a different species from the edible mussel, though closely resembling it, and they were proved to contain *a poisonous alkaloid*, apparently identical with curarine."

In concluding our summary of the literature of ptomaines, so far as it has come under the observation of the writer, I will give a few extracts from an article on pages 302-303 of *The American Journal of the Medical Sciences*, for July, 1886:

"Lehnert states that he has frequently observed that the flesh of cows which have suffered from metritis after parturition, and in which the placenta was wholly or partially retained, produces distinct poisonous symptoms when eaten—vomiting and purging—even where the metritis has existed for a few days only."

" Offinger has separated several alkaloids from the flesh of decaying white-fish, one having a curara-like action."

" Salkoenskie describes the mode of preparation, chemical properties, and physiological action of a new product of the putrefaction of albuminoids. He found it in normal urine, its quantity being increased in ileus, peritonitis, etc."

" Lépine and Guérin have succeeded in separating poisonous alkaloids from the urine of patients suffering from typhus, pneumonia, diabetes and jaundice."

" Hager reports the death of five cows from drinking water in which guano sacks had been washed, and attributes the poisonous effects to the presence of ptomaines in guano."

" Rocklisch reports that different kinds of putrid fish produce different alkaloids; trimethylamine and methylamine have as yet been obtained from no putrid fish but herrings."

From the foregoing summary we learn:

1. That in the decomposition of animal tissues and juices there are formed certain alkaloids, designated by Selmi " ptomaines," because first discovered in a putrefying dead body.

2. That these ptomaines have been discovered in minute quantities in normal human saliva and urine, and in large quantities in snake poison.

3. That they are found in the secretions of patients laboring under typhus, jaundice, diabetes, ileus, pneumonia, peritonitis, and other morbid states.

4. That they are found likewise in various decomposing tissues and fluids, such as brain, muscle, nerve, liver, stomach, bowels, and all decomposing albuminoid matters, as well as the culture-fluid of bacilli.

5. That some are amorphous, some crystalline, some oily, some very soluble, some very insoluble, some liquid and some gaseous, some bitter and nauseous, some sweet and palatable, some aromatic and agreeable, and others extremely fetid and stinking; some innocuous, and others virulently poisonous.

6. That different qualities of ptomaines are produced by the same agent in the various stages of the putrefactive process—one being decomposed by newly generated bases, and their constituents uniting to form other and different compounds; while different bodies produce their own peculiar and characteristic ptomaines.

7. That the physiological action of almost all known vegetable alkaloids finds a striking similitude in the effects of ptomaines—some acting on the nervous centres, paralyzing the vaso-motor nerves; others exciting those centres, increasing the action of the heart and arteries; some acting on the muscular system, suspending the peristaltic action of the intestines, while others inordinately excite the contractile fibres, producing violent emesis and diarrhœa; some exciting the secretions, causing the saliva, urine, bile, and mucus to flow more freely, while others suspend those functions, causing

dryness and fever; some producing coma, and others wild and wakeful delirium, etc., etc.

The alkaloids which ptomaines so much resemble in their chemical re-actions and physiological effects have each its own peculiar effect, which can be counterfeited only to a very limited degree by any other. Hence opium exerts an effect too uniform and characteristic to be mistaken for anything else, and so of other primary vegetable products and their alkaloids. From analogy, then, we would conclude that every ptomaine would produce its own specific effect whenever its physiological action was developed.

In all vegetable and animal tissues in a state of decomposition, as well as all degenerating or putrescent fluids containing albuminous and nitrogenous materials in a state of decomposition, ptomaines are found. Hence they are present in rotten flour and putrid flesh, in decaying vegetables and putrid animal juices. Under certain states of the system, when under the influence of disease, organic vital laws have been suspended, and chemical laws are in the ascendency, ptomaines are generated, as demonstrated by an analysis of the urine and other excretions in many febrile and inflammatory diseases, such as metritis, peritonitis, pneumonia, abdominal typhus, etc. We know, then, that in all waters or other fluids containing animal or vegetable matters, or both, in a state of decomposition, in animal carcasses, putrescent vegetable masses, or indeed any organic accumulations, whether of animal or vegetable extraction, in a state of decomposition, we have the evolution of poisonous organic alkaloids known as ptomaines.

If, as we are assured by distinguished investigators, these ptomaines are often found in normal saliva and urine, we may readily perceive how the human system, in a state of disease, where the secretions are suspended, the tissues are degenerating, and the fluids are vicious, may become an arsenal of poisonous alkaloids. We may also readily understand how many gutters of our streets, containing putrid waters laden with decomposing filth; how excrementitious matters, both fæces and urine, discharged from the bodies of the sick; how even perspiration and the breath, laden with insensible vapors arising from persons generating poisonous ptomaines; how every pile of garbage suffered to putrefy on our streets or in our lots—how any or all of these may become laboratories from which are disseminated poisonous alkaloids, contaminating the air we breathe, the water we drink, and the food we eat.

In certain states and conditions of the system, and certain atmospherical constitutions, we know that certain organs become peculiarly liable to disease. Thus, we often find sthenic inflammatory diseases prevailing in one season, and asthenic inflammatory diseases in another; diseases of the nervous system in one, and of the vascular system in another; affections of the lungs in one, and of the bowels in another, etc., etc. The constitutional conditions of the atmosphere which would make specific and yet diverse impressions on the animal tissues would surely operate as diversely on decaying animal and vegetable matters. Hence, in one season ptomaines would be generated entirely different in their chemical properties and physiological action from those generated in another season, while the same ptomaines would always spring from the same materials, under the same circumstances and influences. If, therefore, organic alkaloids which act directly on the nervous centres, and the chylo-poietic viscera they control, should be generated, we might rationally expect some ostensible demonstration of diseased action in those organs, possibly Asiatic cholera. Should similar alkaloids be generated in the person so affected, from his secretions and excretions might be evolved a sufficiency of the same poisonous agents to produce a like impression on others. Assuming that variola is produced by certain specific ptomaines, we can readily perceive how the emanations from those under their influence would produce a like disease in others. And that it is thus produced we infer from the fact that the variolous poison produces the same impression upon all influenced by it in all countries and all seasons. That all who are exposed to it do not succumb to its effects is evidently owing to the fact that some persons eliminate it from their systems as fast as it is imbibed; of the correctness of which we are the more assured by the fact that those whose systems are in the most healthful exercise, and whose functions are the most active, are least affected by the inoculation of small-pox virus. This view is still further strengthened by the fact that a person who has once had variola is not subject to it the second time; for having once been stimulated by the virus, the eliminative organs, subjected to the same impression again, throw it off as fast as it is received. The same inferences would apply in all eruptive diseases; and some in which the organic alkaloid is not eliminated principally through the skin and mucous membrane, and consequently are unattended by an eruption, are measured by the same rule.

Let us apply this assumption to the known facts in connection with yellow fever. A vessel enters the port of Norfolk. There had been two deaths on board before it arrived at Quarantine. It came from an infected port. It was admitted to Gosport to be repaired. The stinking bilge water was pumped out, and carpenters and boiler makers were sent into it to make repairs. One working in the lower interior was seized in a few days with yellow fever, soon others had it in the immediate neighborhood, some from the infected district fled to Norfolk (Schoolfield and Bryant) and had the fever. It was developed in the immediate neighborhoods of these infected spots in Gosport, Portsmouth and Norfolk, and spread over both cities. Soon two or three sporadic cases had occurred in Portsmouth and its vicinity before the Franklin cases, (Schoolfield) and both cities were in a fearfully unsanitary condition. The heat had been insufferably intense, and the physical prostration was marked. There had been a great deal of rain, succeeded by drought and prostrating heat. Whether any cases of yellow fever had occurred elsewhere before the arrival of the Franklin at Gosport, is a matter of no moment. The facts are clearly established that the meteorological condition was as unpropitious to health as possible.

The bilge water of the steamer Franklin was, as was universally admitted, in a fearfully putrid condition. The first case, concerning the nature of which there could be no doubt, was, as above stated, a man who had worked on the Franklin; others were in its immediate vicinity. Here we have the bilge water possessing every needed factor for the generation of ptomaines. This is poured into the fervid atmosphere with what "volatile alkaloids" it may contain, while its more "oily" portions are floated on the waters to the shore, to be inhaled by persons already ripe for morbid impressions. Those in nearest proximity are the first to succumb, and themselves become new and formidable laboratories for the generation of poisonous ptomaines. That all in a given locality or family who were exposed to the same cause did not contract it, was incidently owing to the activity of the vital organs in throwing off the poison before it accumulated in sufficient quantities to over-power the nervous centres and affect the vital functions. This explains why persons whose systems have not been prostrated by other causes do not contract the disease when exposed to isolated cases occurring in infected districts. Indeed, so active are the functions and so resisting are the vital powers of some, that they walk unscathed through the pestilence, while others only succumb at a late day, when wearied and worn by labors and watching, 'till almost exhausted. From July the 5th, until after September the 14th, my friend Dr. Moore worked with a will, day and night, and did not, until after the latter date, contract the disease.

That malaria, so-called, could not have given origin to the disease, is evident from the fact that, so contracted was the field for the generation of bad air, and so expanded and mobile the volume on which it moved, that its dilution would have rendered it entirely innocuous. That bacterial germs could not have been its source is evident, because such germs can never germinate except in putrid matter, and no bacillus or bacterium can live in a sound tissue or uncontaminated fluid. That the source must have been poisonous alkaloids, germinated in the bilge water, and of such intensely poisonous character as to speedily overpower the vital organs of all in whom they found a lodgment, is rendered most strikingly probable from the source from which the infection sprang, from its *modus operandi* on, first, the nervous centres, and secondly, the secretions, from the rapid accumulation, and hence overpowering effect, when it could not be eliminated by the secretions, from the beneficial results of active depuration through the skin, bowels, and kidneys:—all pointing to an active, specific poison, and that poison an organic alkaloid or ptomaine.

Many and long have been the controversies in relation to the infectious character of certain diseases, such as diphtheria, putrid sore-throat, typhoid fever, erysipelas and pulmonary phthisis. No observant physician can claim any of these diseases to be infectious generally, or ordinarily. And no observant physician will deny that, under certain conditions and circumstances, all of them are infectious. I have a case now, of a large and healthy lady who, for months, was confined to the room with her husband while the latter was wasting with pulmonary phthisis and abscess—discharging large quantities of most putrid and offensive matter—and who, herself, is rapidly declining with the same trouble. That the disease was produced by poisonous alkaloids generated in the polluted pulmonary tissue of the husband, and inhaled by the wife, I make no question. So, when putrid exhalations emanating from the bodies of the sick are inhaled by the attendants, the specific ptomaines thus generated and inhaled will produce a like disease in others. It can only be, however, in certain characters and stages of these diseases that we may expect the generation of poisonous alkaloids, and the transmission of the disease to others.

I knew cases of typhoid dysentery to spring from the inhalation of emanations from decaying cabbages. Dr. Rush attributed to rotten Irish potatoes the cause of yellow fever in Philadelphia, about 1793. Dr. John Woodal, Surgeon-General of the East India Co., who investigated the cause of the great plague in London in 1625, arrived at the following conclusions: "Venemous and stinking vapours arising from fens, standing ponds, pools, ditches, dunghills, vaults, unclean slaughter houses of beasts, dead carcasses of men, stinking fish, fowl or anything containing life, and is putrid—in great cities, such as London, unclean houses, lanes, alleys and streets; from these and the like, venemous vapours, by the warmth of the sun exhaled, are apt and able to infect the living bodies of men, and thereby to produce the plague which, when once produced, is too apt to spread by infection, and become popular, as experience sheweth." Had Dr. Woodal lived in our day, and been required to cite the sources from which spring ptomaines, he could not have more graphically done so than he did 260 years ago. While Dr. Sydenham, in speaking of the "essence of small-pox," says, "I ingenuously own I know not, by reason of a natural defect in the understanding common to me and all mankind;" in speaking of the plague in 1665, he says: "It is produced by receiving the effluvia or seminium from an infected person, either immediately by contact, or mediately by pestilential matter received from some other place. And when this happens in such (an atmospherical) constitution as we have mentioned, the whole air is quickly infected with the plague, by means of the breath of the deceased, and the steam or vapour arising from the dead bodies, so as to render the way of propagating this disease easy, (etc.)—the air received in by breathing will of itself be sufficient to infect him, provided his juices be disposed to receive the infection."

Dr. Cartwright, in his account of the sanitary condition of Natchez preceding the fearful invasion of yellow fever in 1873, among many similar sources of *materies morbi* mentions the following: "At the southern extremity of the city was the grand reservoir of all the filth, and the repository of all the dead animals, of the city and suburbs. It contained numerous carcasses and other kinds of filth. After a rain the stench was intolerable. Dr. Tooley and Mr. Parkerson visited it, and were nauseated by the fetor, and compelled to retire. In the south-eastern part of the city was a house with a large quantity of pork, bacon, and fish in a state of putrefaction, the stench from which was intolerable. In the south-western part of the city was a large pile of putrescent oysters. About the 1st of August the cats took a distemper, of which many of them died. On the 9th of August the first case of fever occurred in the house containing the putrid bacon, and on the 11th another, both of whom died, having black vomit. Another lady in a distant part of the city, and Judge McCaleb from the country, frequent visitors to this house, contracted the fever about this time, and died also."

Pages of evidence could be adduced from the literature of our profession, to show that the sources of all malignant diseases which, from time to time, have devastated various parts of the world, were found in such vegetable or animal accumulations as would most likely produce ptomaines. Though this important question, as herein presented, be for the first time brought to the attention of the profession as the great factor in the etiology of malignant diseases —though it is only in its nascent state, being a thing of yesterday—it has already assumed the form of an ostensible, sensible, natural, physical, chemical, and demonstrable agency, operating in accordance with known scientific principles and well established physiological laws. Away, then, with the mythical malaria of the effete past and the hypothetical germs of the present, which can only spring and live in diseased structures, and hence can never produce disease where they can have no existence. And let us enter this field of observation, where we can deal with demonstrable entities which can be seen, and felt, and smelt, and tasted, and analyzed, and whose origin, mode of action, and laws of diffusion may be readily determined by observation, experience, and chemical analysis. Having learned to analyze the putrid products of animal and vegetable tissues, and the poisonous secretions of men, animals, and reptiles, and test their action on other living animals, let these pioneers in this fruitful field go on and test the active principle of variola, measles, scarlet fever, yellow fever, cholera, hydrophobia, and other malignant diseases, and thus remove the veil which has obscured this branch of medicine till now. Remember that poisonous ptomaines have been extracted from the bacilli culture-fluid of Koch. We predict that it will be demonstrated ere long that all the diseases which have followed the injection of these cultures have been owing exclusively to the poisonous ptomaines they contain, and not to bacilli. Mark this.

All hail to the immortal Selmi! When he discovered in putrid organic tissues, juices, and certain animal secretions poisonous ptomaines, he struck a spark which is already lighting up the medical horizon, and flinging a radiance over the field of scientific research which, we believe, will enable us to comprehend the *casi malorum* as they were never before understood, and which will enable us to apply sanitary laws and hygienic principles to the prevention of disease with such success as will enable us to say, with profound gratitude to God, to the dread contagion: "Thus far thou mayest go, but no farther."

ARTICLE III.

IS LOBAR PNEUMONIA AN ESSENTIAL FEVER? By JOHN S. DORSET, M.D., Bonham, Texas.

The age of discovery is fairly upon the medical world. One theory supplants another in rapid succession until many opinions formerly possessing the weight of axioms have crumbled before the cannonry of modern science. At the last meeting of the New York State Medical Association, held in November, 1885, pneumonia was discussed by the erudite Austin Flint, Sr.,* and others whose opinions are of weight and entitled to very careful consideration. The first and most important question taken up was: "Is Acute Lobar Pneumonia a Primary Local Inflammatory Disease; or is it an Essential Fever, the Pulmonary Affection Being Secondary Thereto, Constituting Its Anatomical Character?" After an extended discussion the conclusion arrived at was that pneumonia is an essential fever, and not primarily an *inflammatory affection* of the lung tissue. This conclusion was supplemented by the enunciations: first, acute lobar pneumonia is characterized by an enormous exudation into the pulmonary alveoli, and this exudation may be rapidly absorbed, leaving the tissues intact—which is admitted in some cases; second, acute pneumonia *never* persists and becomes a chronic affection; third, it never is referable to any appreciable local condition, nor is its causation possible by any form of traumatic injury; fourth, ordinary causes of *inflammatory disease* are *not* capable of producing acute lobar pneumonia; fifth, that a special or specific influence is invariably the cause of acute lobar pneumonia is rendered probable by its occurrence at certain seasons, its greater frequency in certain climates, and its occurring at times as an epidemic disease; sixth, it differs from acute primary local inflammation in that, at the outset, there is pronounced chill.

With deep respect for the deductions of such distinguished authority, the writer feels constrained to question the correctness of much in the foregoing conclusions. In support of his objections he offers the fact that caseation (tyrosis) is a term which only refers to the condition from its outward appearance. The process which leads to its occurrence is by no means always the same. In the first form of tyrosis the degenerated tissue is firm, whitish yellow in color, and slightly translucent. The process in question is, in fact, coagulative necrosis. It takes place in tissues rich in cells, and is most frequently found in cellular tumors or inflamed lungs. So says Zeigler. Tissues taking on caseous degeneracy, the same author continues, lose their nuclui, dissolve, and are replaced by granular fibrils of fibrin, which close up into a dense, uniform mass. This last process occurs in cellular exudation in pneumonia. Again, it is interesting to quote from Austin Flint, Sr. (Chap. iv., p. 173, third edition, revised, of "Principles and Practice of Medicine.") In speaking of lobar pneumonia this distinguished author says: "The inflammation in the great majority of cases is acute, but it occurs in a *chronic form*." On page 193 of the same work the author says: "The term chronic pneumonia may be understood to be the condition which follows an acute attack, or it may be subacute from the first." Dr. Flint further states that "the anatomical condition in chronic pneumonitis is solidification caused by the presence of an exudation which is not absorbed, and which is not liquefied by suppuration."

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* This article was written before the death of Dr. Austin Flint.—Ed.

Yet in the discussion referred to the same author argued for the correctness of the second proposition, that "acute lobar pneumonia *never* persists and becomes a chronic affection."

The third conclusion was, that pneumonia is never referable to any appreciable local condition.

On page 180 of his treatise, however, Dr. Flint gives statistics of 118 cases, showing that between the ages of twenty and thirty the mortality is largest; that males are more liable than females, and that indoor workers are more liable than outdoor workers; while a few lines lower on the same page he says that not infrequently the attack is fairly attributable to some unusual exposure, such as working in the cold and wet, or sleeping out of doors at night; also that inebriety is a fruitful cause of the disease.

As to the fourth proposition, that ordinary causes of inflammatory *local diseases* are not capable of producing pneumonia, on page 181 the learned author says: "Pneumonitis occurs as a complication of other than pulmonary diseases. It is not infrequently developed in the course of typhus and typhoid fevers, and in rubeola."

The best American authors ascribe to pneumonia five different terminations: 1. Resolution; 2. Suppuration; 3. Abscess; 4. Gangrene; 5. Fibroid *chronic* pneumonia. Chronic (interstitial fibroid) pneumonia is the state when the process of resolution is arrested in the stage of gray hepatization. That the microbe or bacillus theory may be correct, so far as organisms being found in the diseased tissue is concerned, is conceded, the microscope having proven its presence; but the great fundamental truth which we are yet not in possession of is embraced in this query: Is the bacillus the primary cause of fever or disease of any character, or is it the result of disease? This has never been settled, and until we can prove that it is primary, the theory must remain in doubt.

The microscope of many hundreds of diameters power reveals the fact that bioplasts and migratory leucocytes are present in the living body, and that whole colonies of living animalculæ swarm in the blood-vessels and tissues of the healthy system, trooping, so to speak, up and down arteries and veins like wild buffaloes, and keeping pace with the rhythm of the heart. Now, as abnormal temperature and function produce decided changes in physical tissue, may not the effect of disease, by malnutrition and vitiation of cell nutriment, be the cause of the transformation of minute organisms into the bacilli found in the examination of diseased tissues, and thus lend
the popular germ theory of disease? Inoculation successfully
not prove the causative agency of such germs. Any putri

of starting septic fermentation, and unless proper antiseptic treatment is adopted, may destroy life by toxic necræmia, the greater or less malignancy of the process depending upon a variety of circumstances.

ARTICLE IV.

ON TOXIC URINE IN RELATION TO CERTAIN SURGICAL OPERATIONS ON THE URINARY ORGANS.

BY REGINALD HARRISON, F.R.C.S., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Clinical Surgery in the Victoria University.

It is impossible to study a series of cases of internal urethrotomy without recognizing that, apart from their surgical interest, they may be regarded as extremely valuable physiological experiments in relation to some unworked-out problems connected with animal chemistry.

Until quite recently it may be said that certain events, following upon interference with the male urethra, proved little else than material for speculation, but little light being thrown upon what we have been accustomed to speak of somewhat vaguely as urinary fevers.

Some valuable communications have, however, from time to time been made in reference to this subject generally. Amongst these I would particularly mention one by my colleague, Mr. Mitchell Banks.* A careful study of this paper led me to alter materially my practice relating to the treatment of certain strictures of the urethra, and eventually brought about some modifications in my proceedings, which I venture to believe have an important bearing upon the communication I am now making. Though the conclusions I have arrived at do not entirely correspond with those contained in the paper just referred to, I have no hesitation in expressing my indebtedness to the author for placing the matter before us in such a light as to furnish material for further elaboration and suggestion. It is now nearly fifteen years since, after practising the operation of internal urethrotomy on a tolerably large scale, much as now employed, that I practically abandoned it. I have again resorted to it within the last two years, performing it, however, in a different manner, and under circumstances distinguishing it, I believe, widely from my previous custom. For the purposes of comparison and deduction I will briefly refer to the conclusions drawn from the two different methods of performing internal urethrotomy here referred to. The old practice of introducing some form of concealed knife within the urethra, and dividing the stricture by an incision, is almost invariably followed, at an interval of somewhere about three hours, with a rigor, and the subsequent development of more or less constitutional fever or pyrexia; these attacks may or may not be repeated at regular intervals; they differ widely in degree, in some instances being extremely mild, whilst in others they may prove severe or even fatal in a few hours. These phenomena have been explained in various ways, but none appeared to me to be satisfactory.

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* *Edinburgh Medical Journal*, June 1871.

That such symptoms have little or nothing to do directly with the pathological state of the kidney is clear, from the fact that they have been observed and have terminated fatally in individuals whose kidneys were *sans reproche*. That the state of these organs may, under certain circumstances, determine the degree, or even direction, of the pyrexial attack, may not be improbable, but that it can cause it, or even be responsible for it, is obviously opposed to observation. That such effects are due to any form of direct nerve lesion or nerve traumatism of any kind seems to me to be equally improbable. Injuries to nerves are immediately followed by such anatomical or physiological signs as the nature of the lesion is capable of affording. If a man's brain or spinal cord is damaged by a blow or a shock, he shows signs of concussion or nerve traumatism immediately upon the receipt of the injury, and not three or four hours afterwards. Again, if it is a nerve lesion of the urethra which is the primary cause of the phenomena following, why do we not see urethral fever after far more extensive nerve injuries, such as lithotomy and other equally great operations on the urinary apparatus? The improbability of urethral fever after internal urethrotomy, catheterism, and such like, being due directly to nerve shock, is indicated by other collateral considerations which may be noticed. In the first place, we should expect such symptoms to follow Holt's operation for stricture just as frequently and as severely as after section of the stricture from within. On the contrary, rigors and fever are far less commonly met with after dilatation with rupture than after internal urethrotomy; tearing or stretching is considerably less productive of urinary pyrexia than incision. In the next place, the position of the wound in internal urethrotomy, relatively to the circumference of any given part of the urethra, should hardly be expected to exercise a sort of determining influence in the production of rigors and fever, if the causation of these effects was a nerve lesion. Yet we find such symptoms more frequently follow when the section is made on the floor of the urethra in preference to the roof. A dependent position of the urethral wound is more likely to be associated with fever than one not so situated. Lastly, we should hardly expect the manifestation of these symptoms to be influenced by mechanical after-treatment if damage done to the local nerves was the cause of the symptoms that followed. Yet an analysis of cases seems to show, when a catheter is worn for a time immediately after the internal urethrotomy, and bladder-drainage of urine is carefully carried out, that a considerable proportion of these instances escape attacks of urethral fever. As I have already remarked, if these effects are the result of nerve lesions, how is it we do not see them following lithotomy and properly performed perineal sections for urethral stricture? In reference to the latter operation, the earlier experience of Syme only shows how easy it is to construct a perineal section which proves to be just as ready a cause for rigors and fever as any internal urethrotomy. In looking over the notes of my earlier cases of internal urethrotomy, it struck me as being worthy of remark that neither rigors nor fever showed themselves until after micturition had been naturally practised, or there was evidence that urine had found its way into the wounded urethra and was lodging there. This seemed to me to be opposed to the idea that nerve lesion had anything to do with the production of rigors and fever, inasmuch as these symptoms did not show themselves until urine had first been brought into contact with the wound. Such considerations as these led me to believe that the rigors and fever which I have referred to and illustrated by what follows internal urethrotomy were symptomatic of poisoning rather than shocking. I therefore determined to test this point in practice, with the view at the same time of improving the condition of certain cases of stricture which proved unamenable to other means.

Adopting the view that rigors and fever, after internal urethrotomy and such-like operations, were illustrations of poisoning by material furnished directly from the urine, I resolved to perform a series of operations in suitable cases, where, though internal urethrotomy was practised, no urine was allowed to remain in contact with the freshly made wound. This involved an external perineal urethrotomy being done immediately after the stricture had been divided from within; in this way the urine was made to drain away just as rapidly as it was secreted. In the course of last year I published* a series of cases, since added to with comments, where the double proceeding had been practised, my object being not only to prevent urine lodging, from decomposing and becoming absorbed by the wound, but at the same time to permanently improve the condition of the stricture. From these operations of external and internal urethrotomy combined, I soon learnt how it was possible to produce rigors and fever at will after operations on the urethra. So long as the bladder-drainage of urine through the external perineal wound was free and uninterrupted, there was invariably a complete absence of rigors and fever; if these conditions were not fulfilled, either by reason of a flaw in the making of the drainage-wound or in the apparatus used, I could see how such complications might arise. In carrying out these observations in regard to what I would speak of as the artificial production and prevention of rigors and urethral fever, I am particularly indebted to my house-surgeons in succession, viz., Messrs. Pearson, Dawson, and Collins.

At this stage of the question it seems important that we should clearly recognize the different conditions under which the surgeon has to deal with wounds which are exposed to the action or influence of urine. Running healthy urine may be regarded as absolutely innocuous. When it can make its way over a fresh cut surface, or out of a cavity, just as fast and uninterruptedly as it flows over or in, it need cause no apprehension; on the other hand, when it is pent up, as in a wound or space, it is apt to be speedily converted into a most destructive, and, I believe, poisonous agent. How favorable for the production of urine fever are the conditions attending the operation by internal urethrotomy. The incision requisite for the division of the contraction necessarily paralyses the urethra to the extent, or rather more, of the wound that has been inflicted. Hence the process of repair has to be carried on with the wound soaked in the urine that is left behind to stagnate and to undergo change after each act of micturition. This is a very different condition from the incontinent flow of urine over the glazed and granulating open wound of a lithotomy or of a perineal section. In one case it is merely a contact of urine with open spaces, in the other retention, and probably chemical rearrangement, within a space bounded by a freshly made wound. My direction and kind of work led me to believe some time ago that the urine could provide septic material of a kind which seemed to me to have been previously unappreciated in connection with the causation of urinary fever. It was with considerable interest that I perused the various communications bearing upon this subject which have been recently made by Dr. Bouchard of Paris. On a late visit I had the pleasure of seeing many of Dr. Bouchard's experiments and tests, which he was good enough to show me at the Hospital Lariboisiere. These views relating to toxic urine, in conjunction with what I have stated as the result of my own observations in this department of practical surgery, seem to indicate tolerably clear how poisonous normal urine may become, and how a grave complication may be added to a comparatively simple surgical procedure. I am much indebted to Dr. A. Barron for kindly making me the following digest of Dr. Bouchard's papers bearing upon this subject:—

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* "On the Treatment of Urethral Stricture, by Combining Internal and External Urethrotomy," *British Medical Journal*, July 18, 1885.

In 1882, in a note* presented to the Société de Biologie, Bouchard showed that alkaloid substances were constantly present in the urine in certain infective disorders, and that these alkaloids were of intestinal origin. That is to say, that they were substances produced in the intestinal canal by the growth of the vegetable organisms therein contained; also that they were analogous to the *ptomaines*. Subsequently these alkaloids were found to be present in normal urine. Bouchard found the same alkaloids present in the fæces, and he divided them into two groups—(*a*) those soluble in ether, and (*b*) those soluble in chloroform. He found that, when present in large quantities in the fæces, they were also present in proportionally large amount in the urine, and this applied to the ether and chloroform groups respectively. This first paper may be summarized as follows:—

1. In health alkaloids exist in the living subject.
2. These alkaloids arise in the intestinal canal through the action of putrefactive intestinal organisms.
3. The alkaloids of normal urine represent a fractional part of these intestinal alkaloids, absorbed by the intestinal mucous membrane, and excreted by the kidneys.
4. Diseases augmenting intestinal alkaloids augment *par consequence* the urinary.

In his next paper† he determined the effects of normal urine on rabbits, and

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[*] De l'origine intestinale de certains alcaloides normaux ou pathologiques, par Ch. Bouchard, *Rev. de Med.*, 1882, tom. ii. p. 825.

[†] "Recherches experimentales sur la toxicité des urinales normales," *Comptes Rendus*, 6th Dec., 1884.

found that the same doses produced different effects according as the individual furnishing the urine was in health or not; also that the *toxicity* varied in different individuals and that the symptoms depended on several distinct substances. He proved by experiment that the symptoms were not due to the water of the urine, nor to the urea, uric acid, creatin, salts, or volatile matters. Further, that the alkaloids soluble in alcohol differed in their effects from those insoluble in alcohol, and that, although there might be five or six different substances present, they could symptomatically be arranged in two groups, a convulsive and a narcotic, and he concluded that the symptoms in different cases of uræmia might be explained by these groups being present in the blood in varying proportions.

Quite recently Bouchard has brought forward some further facts with regard to the urinary alkaloids and their properties.* He defines a *toxie*, or a unit of poisonousness, as that amount of poison required to kill one kilogram of living matter, *e.g.*, of rabbit. The *urotoxie* is that quantity of urinary alkaloids capable of killing a rabbit weighing 1 kilogram. The symptoms of urinary toxæmia produced by introducing urine into the veins of a rabbit are, in the order of their occurrence—

1. Contraction of the pupil.
2. Acceleration and diminished amplitude of the respiratory movements.
3. Increase of urine.
4. Fall of temperature.
5. Diminution and finally abolition of reflexes.
6. Convulsions, usually with coma, and
7. Death, the action of the heart and the electro-contractility of the muscles persisting for a time after death. The fall in the temperature is due not to increase in the loss of heat but to a diminution in heat-production. The urotoxic co-efficient in man is .465; in other words, for each kilogram of body-weight enough poison is excreted in twenty-four hours to kill .465 grams of living matter, or in two days and four hours a man excretes enough to kill himself.

During eight hours, if asleep, only from one-quarter to one-half as much poison is excreted as during the same period when awake. If the whole day be divided into three periods of eight hours each, the proportional quantities of poison excreted are—sleep, 3; early waking period, 7; late waking period, 5. The urine of the sleeping and waking hours also differs qualitatively as well as quantitatively. The alkaloid of the urine of sleep is *convulsive*, that of the waking urine *narcotic*. The urinary poisons of the sleeping and waking hours are not only different; they are physiologically antagonistic.

Fasting increases the toxicity of the urine, probably because then the individual lives on his own tissues, and these are relatively more difficult of oxidation than the ordinary food, and are less completely oxidized. Labor greatly diminishes the toxicity of the urine, as does also the breathing of compressed air.

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* "Sur les poisons qui existent normalement dans l'organisme et en particulière sur la toxicité urinaire," *Gazette Hebdomadaire*, Avril, 1886; "Sur les variations de la toxicité urinaire pendent la veille et pendent la sommeil."

"Influence de l'abstinence, du travail musculaire, et de l'air comprimé sur la toxicité," *Gazette Hebdomadaire*, le 19 Mai, 1886.

Opposed to the views I have advocated that toxic urine is the cause of the rigors and pyrexia, which constitute what we are accustomed to speak of as urine fever, may be urged the considerations, How is it that such symptoms are not produced when urine, often ammoniacal, is subcutaneously forced amongst the tissues, sometimes in large quantities, as in cases of stricture and sudden urinary extravasation ? and secondly, how it happens that the same symptoms have been produced in sufficient intensity to cause death within a few hours, where there is no evidence to show that the urethral walls have been actually lacerated by the catheter or bougie, which is the assigned cause of the phenomena following. The latter consideration cannot fail to strike those who have perused Mr. Banks's paper, to which I have already referred. To each of these points I will briefly address myself.

The conditions attending subcutaneous urine extravasation are essentially different to those associated with the continuing contact of urine with a wound in the urethra, as in internal urethrotomy. A mixture of blood and urine seems to me to be capable of producing very different compounds from those that extravasated urine alone is likely to yield. Nor are we entirely to lay aside the consideration that, whatever *materies morbi* may be found at the seat of the wound by the conjoined decomposition of stagnant blood and urine, its entrance into the circulation must be favored by the contractile power of the bladder from behind.

Again, when urine is extravasated amongst the tissues, its action is that of a virulent local poison, under the influence of which the contiguous tissues are killed outright, probably before they can exercise any power of absorption. Such a conclusion seems likely from some of Menzel's experiments, where putrid and normal urines were subcutaneously injected into various parts of the body.

In reference to the second objection which may be urged—namely, that cases are recorded which have proved rapidly fatal from urinary fever where there is no evidence that the ur[illegible] has sustained any appreciable lesion—with all deference to those wh[illegible] otherw[illegible] [illegible]mit that this is a statement which should be re[illegible] co[illegible] [illegible]rvation. Though the operator is not conscio[illegible] [illegible] on the urinary passage with an instrument h[illegible] [illegible]ent show evidence of it immediately, this by [illegible] [illegible]uctur[illegible] [illegible] the urethra has not been i[illegible] [illegible] dr[illegible] [illegible] this point, and demonstr[illegible] [illegible]clu[illegible] [illegible] in reference to it.

Curious[illegible] [illegible] [illegible]nt cases of catheterism which [illegible] where structural damage is inflicted or false passages made they are generally on the distal side of the stricture, and consequently well protected from urine infiltration or contact.

I have seen a few cases where it has been found necessary to tap the bladder with the aspirator needle above the pubes. In some of these I have ascertained that this proceeding was not resorted to until after prolonged attempts to get in an instrument by the natural passage had been made, such efforts probably meaning that a considerable amount of damage in a legitimate way had been done to the urethra, but in front of the stricture. In none of those cases where puncture of the bladder had to be subsequently performed could I discover that the patients suffered from urinary fever. Surely in these instances the amount of shock must be greater than that caused by the slight wound of a urethrotomy knife, where rigors and fever almost invariably follow.

As, in connection with the whole subject of urinary pyrexia, I cannot deny that there are causes other than those proceeding from toxic urine, and clinically distinguishable from them, I would take the opportunity of briefly referring to them as I have met with them in practice.

In addition to the ordinary forms of fever, which may in some degree follow upon the infliction of any wound, as in other parts of the body, as well as the extraordinary fever of the half-emptied septic-made bladder about which we have recently heard so much in connection with catheter fever, there are two other forms of pyrexia which will in practice be met with. The one is essentially malarial; the other I would speak of as "irritative," for want of a better designation. The malarial variety is common enough in seaports. It is never seen except in persons who have had malaria, possibly at some very remote period of their lives, and is provoked by the passing of a bougie or a catheter. It comes on, as a rule, very shortly after the operation, sometimes within a few minutes. It bears no relation to the passing of urine; it is amenable to ordinary treatment by quinine, and can, as a rule, be prevented by giving the patient a third of a grain of morphia subcutaneously an hour before the instrument is passed.

Similarly, I have seen these attacks caused by the introduction of the finger up the rectum for the purpose of making a prostatic examination. I have never known febrile attacks of this description occasion any anxiety. The variety of febricula to which I have applied the term "irritative," for want of a better description, is hardly worth speaking of as a fever. It follows immediately upon the passing of an instrument; the patient is conscious of chilliness, and there is some elevation in temperature, which speedily declines. Precisely the same occurs sometimes when a patient passes water along the whole length of the urethra for the first time after lithotomy; this happened once to a patient of mine, upon whom I had performed a prostatotomy, on the first occasion he micturated naturally. In this latter instance it was more than a rigor; it was a convulsive movement, which lasted for several minutes, and was followed by a rise in temperature. The patient subsequently told me that he believed all this was due to what he described as "the consciousness of a new sensation." He should rather have said that it was the revival of an old one after six weeks' absence.

In making this communication I have endeavored to apply my practical experience in the operative surgery of the urinary organs in the direction of throwing some further light on certain complications which, though hitherto grouped under one name, permit, I believe, of further differentiation.

We know a good deal relating to the chronic forms of urine poisoning; of the acute much has yet to be learnt.

I desire to close this article with a paragraph taken from the address entitled "Medicine of the Future," which was to have been delivered by Dr. Austin Flint, of New York, at the annual meeting of the British Medical Association in 1886, a copy of which I received just as this publication was going to press: "Analytical chemistry carries investigation beyond the limits of microscopical observation. The latter, at the present moment, both in pathology and physiology, seems to promise most; but is it not a rational anticipation to look for future results from chemical analysis of the components of the body, in health and disease, which in brilliancy and practical utility may surpass those of the labors in this field of investigation during the past half century? The medical semi-centenarian can recall the enthusiasm aroused by the labors of Liebig. Histology is now in the ascendent, but is it safe to predict that before the lapse of another half century there will be another era in organic chemistry, and that light will penetrate dark recesses which histology cannot reach? . . . The supreme objects of study in pathology at the present time are the discovery of micro-organisms and their natural history. But these agents, it is probable, are pathogenic, not directly, but indirectly, by means of the toxical products of their activity. What are these products, and how do they give rise to the phenomena of disease? We may ask the same question of certain of the poisons introduced from without the body. How is it that fractional quantities of morphia, hyoscyamin, strychnia, aconitia, atropia and other alkaloids, produce their lethal effects? It conveys no adequate information to say that they act upon the nervous system. This is merely the statement of a fact, not an explanation. For the latter we must look to the organic chemistry of the future." Such is an anticipation by one who has been appropriately spoken of as "America's greatest physician," and whose loss to science and society is so sincerely deplored.

ORIGINAL TRANSLATIONS.

APROPOS OF SIX CASES OF HYSTERIA IN MAN. By M. CHARCOT.

Translated from the *Progrès Médical* by H. McS. GAMBLE, M.D., Moorefield, West Va.

SECOND LECTURE.

Gentlemen: I come to-day to close the study that we commenced in the last lecture. I shall proceed, moreover, as I did the other day, above all by the way of clinical demonstration. Our supply of hysterical males is far from being exhausted. Three new subjects will be successively presented to you; in proportion as we progress the principal details of the histories which concern them will be communicated to you. I will let the facts speak for themselves, and I will consider only, in a few short comments, the most important lessons that these cases supply.

Case IV.—The subject who is going to be presented to you does not come altogether within the category to which we have confined ourselves up to the present time, in so far as it is a question of a youth, and not of a mature man. But with him the disease appears endowed, as you will see, with that character of permanence and tenacity with which we have already met.

The youth named Mar——, aged sixteen years, was admitted into the clinical service April 29, 1884—that is to say a year ago. He was born and lived in the country until he was fourteen years old. His mother had several attacks of hysteria in 1872. His *paternal grandfather* was a subject of *alcoholism*, and of a violent temper. This is all that can be discovered of the hereditary antecedents. As to himself, he is a large boy, well developed, although he had in childhood some strumous manifestations, to wit: discharge from the ears, ganglions in the mastoid region. He is intelligent, of rather a gay character, and has never been timid; but he is subject to very violent fits of anger, going in his paroxysms so far as to break everything he finds under his hands. Two years ago he was placed in Paris with a baker, in the capacity of an apprentice. Shortly afterwards he had an acute pulmonary catarrh, and the debility which this disease produced was certainly not without influence upon the development of the symptoms which soon followed. Some time after that, whilst still convalescent, he experienced a violent fright. He was, he said, attacked by two young persons in the street; he fell almost immediately without consciousness, and was transported in that condition to the house of his master. He bore no trace of any wound. From that moment he remained plunged for several days in a sort of hebetude. He commenced to become subject at night to very painful attacks of nightmare, which torment him still to-day. He dreamed that he was fighting, and often he awoke uttering cries. Finally, at the end of fifteen days, the attacks of hysteria commenced. They occurred at first every day, presenting themselves in series of eight or ten, and sometimes they counted two series on the same day; then they diminished little by little in number and intensity.

At the time the patient was admitted to the Salpêtrière, the following state was observed: The hysteria *stigmata* were very distinct; they consisted in an *anæsthesia en plaques* disseminated irregularly over the whole body, and upon which insensibility is complete, to touch, to cold, and to pain. The hearing, the taste, and the sense of smell are obnubilated on the left side, and as to vision, we observe the existence of *double contraction of the visual field*, more accentuated on the right side. On this side the patient does not distingush violet, whilst on the left he recognizes all the colors; but on both sides we find a remarkable phenomenon to which I have many times called your attention, and with which we have besides met in the case of our first subject: the visual field of red is more extended than that of blue, contrary to what is observed, as you know, in the normal state. There is but one *hysterogenic point*; it occupies the left iliac region. To-day even, although the disease commenced two years ago, the attacks supervene spontaneously, at pretty short intervals, about every ten or twelve days. They can be provoked very easily, when one presses upon the hysterogenic point even moderately. A more energetic pressure exercised upon this same point arrests the attack.

The latter, whether it be spontaneous or provoked, is always preceded by an aura; iliac pain at the level of the hysterogenic point, sensation of a ball which ascends from the epigastrium to the throat, ringing in the ears, pulsations in the temples. Then the attack commences; the eyes are turned up in their orbit, the arms stiffen in extension, and the patient, if he is standing, falls unconscious. The epileptoid aspect is in general but slightly accentuated, and very short, but the period of the grand movements, and of contortions which follow it, is excessively violent and of long duration. The patient utters cries, bites everything he finds within his reach, tears the clothes, and makes the grand classical movements of salutation, which he interrupts from time to time, in assuming the characteristic attitude of the *arc de cercle*. The scene closes with the phase of the emotional attitudes, which is very strongly marked with him, and differs a little according to circumstances. Then, when the attack has been spontaneous, it may happen that the hallucinations assume for the moment a gay character, whilst if the crisis has been provoked by excitation of the hysterogenic plaque, the delirium is always sombre, furious, and accompanied by rude speeches and abusive language: "Canailles! etc."

In general, several attacks follow each other in such a manner as to constitute a more or less numerous series.

In the case of this subject I will confine myself to considering the permanence, and in some sort the immobility, of the constituent elements of the hysteria; recalling what is often observed in man. Thus, as you may have remarked in the case of our young patient, although two years have passed since the moment of the début, the convulsive crises are still frequent to-day, whatever we may have done, and the hysterical stigmata, sensorial and sensitive anæsthesia, have not sensibly varied since the day when we studied them for the first time. Nothing allows us to predict that they will be modified soon.

It is not thus usually, gentlemen, in the case of young boys, particularly when the disease has been developed in them before the age of puberty. At this age—this at least is what appears to me to result from the numerous descriptions which I have been able to collect—the hysterical symptoms are, in general, much more fugacious, much more mobile, however accentuated they may be, and they yield most frequently quite readily under the use of an appropriate medication. Apart from an anomaly in the form of the seizures, to which I shall return in a moment, the case about which I am going to talk to you, and which concerns a young man twenty-two years of age, ought to be referred also, like the preceding, to the hystero-epileptic type.

Case V.—The man named Ly——, a mason, twenty-two years old, was admitted to the Salpêtrière, in the clinical service, the 24th of March, 1885. He was born in the country, in the neighborhood of Paris; he is a young man of medium size, little developed, and rather of weak appearance. His father, who has carried on the business of cartman, is a subject of alcoholism. His mother, who died tuberculous, had *attacks of hysteria.* Finally, we find in his family a maternal grandmother who is still hysterical, although she has attained the age of eighty-two years, and *two* maternal *aunts*, both subjects of hysteria. Here are antecedents of a capital importance, four subjects of hysteria and one of alcoholism in the same family.

The personal antecedents are not less interesting to note. Our patient has always been feebly intelligent, weak in mind, and never was able to learn at school; but he does not present, however, apart from this psychical debility, any very characteristic mental trouble. He confesses to having drunk for quite a long time five or six small glasses of brandy per day and a pretty large quantity of wine; but he assures us that he has given up this bad habit since he was taken sick. Three years ago he had an erysipelas of the face, followed soon by an attack of acute articular rheumatism, tolerably slight, however, since it confined him to bed only fifteen days. The same year he put himself under treatment for the purpose of being relieved of a tape worm from which he was suffering, and took the bark of the root of the pomegranate tree. The remedy produced the desired effect; the patient passed at first some fragments, then the whole worm. But the sight of the tænia which he found in his stools struck him in a very peculiar manner, and the emotion which he experienced was so lively that for some days he suffered with slight nervous disorders, such as colic, pains, and jerkings in the limbs, etc.

A year ago, whilst working at his trade in Sceau, the son of one of his comrades was rudely struck by his father. A witness of this scene, L—— wished to interpose, an unfortunate thing for him, for his furious comrade turned against him, and when he fled hurled a large stone at him, which fortunately did not strike him, but the fright experienced by L—— was very great; he was immediately seized with trembling of the limbs, and the night following it was impossible to obtain sleep. The insomnia persisted for the next few days; besides, night and day he was tormented with gloomy thoughts. He thought every moment that he again saw his tape worm, or was still witnessing the struggle to which he had nearly fallen a victim; besides, he suffered with pricking sensations in the tongue; did not eat, felt weak, and worked badly. This condition had lasted fifteen days, when one evening, toward six o'clock, the first convulsive attack supervened. He had already been suffering since morning with pain at the epigastrium, and the sensation of a ball, with a feeling of suffocation and buzzing in the ears. At the moment at which the attack commenced, he informs us, he felt that his tongue was drawn in his mouth towards the left side, by a sort of involuntary, irresistible traction. Then he lost consciousness, and when he came to himself he was told that he had had his face twisted toward the left side, his limbs agitated by a trembling, and that, once the convulsions arrested, he began to speak in a loud voice, without waking. During the months following fits similar in all respects were repeated every eight or fifteen days, and he was obliged, during this long period, to cease all work because of the state of debility to which he found himself reduced. These fits were considered as epileptiform attacks of alcoholic origin, and for nearly a year he was subjected to the use of bromide of potassium in large doses, without the symptoms being modified in any way. During the day which followed his entrance to the Salpêtrière, there occurred spontaneously a series of five successive attacks, to which it was not our privilege to be a witness.

The next day methodical examination of the patient revealed to us the following: Generalized anæsthesia, disposed in disseminated plaques; considerable contraction of the visual field on both sides; the red field is more extended than that of the blue; monocular diplopia. There exist two spasmogenic points, one at the level of the right clavicle, the other below the false ribs on the same side. A pressure somewhat strongly exercised upon this last point determined immediately, at the time of the first examination, an attack which we were able to study in all its details. It is preceded by the classical aura, epigastric constriction, sensation of a ball in the throat, etc. At this moment even, and before the patient has lost consciousness, the tongue, in a stiffened condition, is drawn in the mouth toward the left side; one feels, by the aid of the finger, that its point is carried behind the molars of this side. The mouth, half open, deviates in its turn; the left labial commissure is elevated and drawn towards the left; the whole left side of the face at length takes part in this deformation; the head itself, finally, is strongly turned towards the left. The patient has, at this moment, been unconscious for some time. Then the upper limbs become rigid in extension, the right first, then the left. The lower limbs, however, remain flaccid, or at least stiffen but little. The movement of torsion toward the left, at first noticed in the face, is not long in becoming general, and, turning upon himself, the patient soon finds himself lying upon his left side. It is then that the clonic convulsions replace the tonic. The limbs are agitated by frequent vibrations of limited extent. The face is the seat of sudden jerkings; then comes a complete relaxation without stertor. But at this time the patient seems tormented by painful dreams. Doubtless he again sees mentally the scene of the struggle with his comrade: "Canaille! Prussian! A blow with a stone! He wants to kill me!" Such are the words that he utters in a perfectly distinct manner. Then, all at once, he changes his attitude; we see him, seated upon his bed, at different times pass his hand along his lower limb, as if he was seeking to rid himself of some reptile, which, embracing his leg, was making an effort to ascend along his thigh, and during this time he speaks of the "tape worm." The scene at Sceau then returns: "I am going to kill you—! A gunshot—! You will see." After this stage, marked by delirium and the correspondent emotional attitudes, the epileptoid stage recurs spontaneously, inaugurating thus a new fit, distinguished in no way from the first, and which may be followed by several others. Pressure upon the hysterogenic points may, moreover, interrupt the attack in the different phases of its evolution. Upon waking up, L—— appears astonished, stupid, and, he assures us, he remembers nothing of what has taken place.

All the attacks, a pretty large number, spontaneous as well as provoked, of which we have been a witness, have presented exactly the same character. We have always seen reproduced in the same order, systematically, and even in the smallest details, the different incidents of the epileptoid phase, beginning in the tongue and face, such as they have just been described—in a word, then, the various scenes of the stage of delirium.

Here you have, gentlemen, an attack of hystero-epilepsy which, in one aspect, is notably removed from the classical type. In the first stage, in fact, we see the convulsive symptoms reproduce almost to perfect imitation the symptoms of partial epilepsy, whilst the contortions, the grand movements, the *arc de cercle* finally, are absolutely wanting. But we are acquainted with this variety of the hystero-epileptic fit in woman; although this is quite rare, I have nevertheless had occasion to present to you recently several perfectly authentic examples of it. It was, moreover, last year the subject of careful study on the part of my former chief of clinic, Dr. Ballet, at present hospital physician. In comparing the case which has just occupied our attention with the descriptions contained in that work, you will be led to recognize once more the truly striking marks of resemblance which approximate the hystero-epilepsy of man to that of woman, even when, ceasing to consider exclusively the fundamental type, one opens the chapter upon the anomalies.

Another anomaly, less rare this, less unexpected, is the absence of convulsive seizures in the hysteria of woman. You know, in fact that, according to Briquet, about one-fourth of hysterical women have no fits. The disease in such an event, without losing anything, however, of its autonomy, is represented symptomatically only by the permanent stigmata, to which are sometimes added several spasmodic symptoms, or others, such as nervous cough, permanent contractures, certain arthralgias, certain paralyses, hemorrhages taking place through different routes, etc., etc. So the fits may likewise be wanting in the hysteria of man. The case which I am now going to present to you, when it was brought before us, offered a beautiful example of this kind. The disease has in a manner completed itself since then, for at present the paroxysms exist. But, during a long period of eleven months, we had to do here with an obscure case, of difficult interpretation besides, at least in certain respects, as you will be able to satisfy yourselves.

The 10th of last March the boy whom you have before you presented himself to us, suffering with a left bronchial monoplegia, without any trace of rigidity, soft—in a word, flexible to the highest degree—which, said he, was of ten months standing, and had supervened a few days after a traumatism, the force of which had fallen upon the anterior portion of the left shoulder. There was no trace of paralysis, or even of paresis, either in the corresponding lower limb or in the face; no traces, moreover, in spite of the already remote date of the début of the paralysis, of atrophy of the paralyzed muscles, a circumstance which, added to the absence of all modification of the electric reaction in these muscles, led us to immediately eliminate the influence—at least the local direct influence—of traumatism. We were, besides, struck upon seeing the skin of the carotid regions elevated by violent arterial pulsations. The pulse of Korrigan was clearly observed. Auscultation of the heart revealed the existence of a murmur in the second sound and at the base, and, besides, we noticed briefly in the antecedents of the patient the history of an acute articular rheumatism, which had kept him in bed for five or six weeks. The idea came into our mind, consequently, very naturally, that this monoplegia depended upon a circumscribed cortical cerebral lesion, strictly limited within the motor zone at the brachial centre, and consecutive itself to the valvular affection of the heart. But a more attentive study of the case was soon to undeceive us. Without doubt the monoplegia in question proceeds from a cortical cerebral lesion, chiefly located in the motor zone of the arm; but there is no question there of a gross material alteration. The lesion is purely "dynamic," "*sine materia,*" of the nature of those of which we readily imagine the existence to explain the development and the persistence of the different permanent symptoms of hysteria. This is at least what will appear, I think, very clearly from the detailed examination which we are going to make of our patient.

Case VI.—The young man named Pin——, eighteen years of age, at present working at the trade of a mason, was admitted to the Salpêtrière, March 11, 1885. His mother died at the age of forty-six years, after an attack of "rheumatism" (?); his father is a subject of alcoholism. One of his sisters, sixteen years old, is subject to frequent nervous attacks. He is a young man of solid appearance, well muscled, but the action of the nervous system has always left much to be desired. From five to seven years of age he was subject to incontinence of urine. He has always had but little intelligence; his memory is feeble, and he has not learned any great things at school. Besides, he was timid and subject to night horrors. From a moral point of view he is an anomaly, an unbalanced young man. About the age of nine years he used to leave the paternal home and go to sleep under the bridges and in the waiting-rooms of railroad stations. His father having apprenticed him to a fruiterer, then to a pastryman, and others still, he recommenced his escapades. One night he was arrested in company with a band of young vagabonds, and shut up at Roquette, where his father left him for a year.

Two years ago, at the age of sixteen years, he was taken with general acute articular rheumatism, preceded by an erysipelas of the face; and it is very likely that from this time dates the organic disease of the heart which we recognize to-day.

The 24th of May, 1884, eighteen months after that, P——, then an apprenticed mason, fell from a height of about two metres, and remained, a few minutes only, without consciousness upon the spot where he had fallen. He was carried to his domicile, and there was recognized the existence of a few contusions, occupying the anterior part of the shoulder, of the knee, and of the left instep, slight contusions which did not seriously interfere with the use of the affected parts.

For a few days there was reason to believe that everything would remain thus, but the 27th of May P—— perceived that his left upper limb had become weak. He then went to consult a physician, who, it appears, recognized a paresis of all the movements of the left arm with anæsthesia of this member. The 8th of June, that is to say fifteen days after his fall, and eleven days after the commencement of the paresis, he entered the Hôtel Dieu. There he was carefully examined, and the following condition was recognized: Well-marked signs of aortic insufficiency. The parts which were contused are not the seat of any pain, either spontaneous or provoked by movements active or passive. Incomplete paralysis of the left upper limb. The patient could still, very incompletely, however, flex the hand upon the forearm and the latter upon the arm; but all movements of the shoulder were impossible. The paralyzed limb was absolutely flexible in all its articulations; no traces of rigidity. The face and the left lower limb were absolutely normal. So far as concerns mobility we had to deal here, then, with a monoplegia in the strict acceptation of the word. Investigation of the sensibility furnished the following results:

There existed already at that time a generalized left hemianalgesia; anæsthesia was complete in the upper limb exclusively. From that time we observed the contraction of the visual field on both sides, but much more pronounced on the left; a point which we are going to take up again directly. Finally, the 25th of June, that is to say twenty-two days after the commencement of the paralysis, the latter had become absolutely complete. The diagnosis remained uncertain; the treatment without effect. Faradization, several times applied upon the left side, had the effect only of rendering the sensibility less obtuse upon the trunk, the face, and the lower limb. The anæsthesia and the paralysis remained as they were in the upper limb. The contraction of the visual field was likewise by no means modified at the time P—— left the Hôtel Dieu.

It was the 11th of March of this year, consequently ten months after the fall, and nine months after the complete establishment of the monoplegia, that P—— entered the clinical service of the Salpêtrière. We re-established then the antecedents such as I have just described to you, and besides a minute clinical examination furnished us the following results: Well-marked aortic insufficiency. There exists a murmur belonging to the second sound, and at the base; the arteries of the neck are raised by pulsations apparent to the sight; pulse of Korrigan; capillary pulse sensible in the forehead.

The motor paralysis of the left upper limb, which presents itself motionless, hanging along the body, and falls heavily when, lifted up, it is abandoned to itself, is complete, absolute. There is not a trace of voluntary movement, not a trace of contracture. The muscular masses have preserved their volume, their normal relief and electric reactions, as well faradic as galvanic, and are in no way modified. Very slight relative increase of the tendinous reflexes of the elbow and the forearm. Cutaneous anæsthesia, absolute to touch, to cold, to pricking, to the most intense faradization upon the whole extent of the limb, hand, forearm, arm, and shoulder. On the part of the trunk, this anæsthesia is limited by a circular line determining a nearly vertical plane, which, passing through the cavity of the axilla, encroaches upon the sub-clavicular cavity a little in front, the external third of the region of the scapula behind. The insensibility extends to the same degree to the deep parts; one may, in fact, strongly faradize the muscles, the nerve trunks themselves, pull energetically upon the articular ligaments, or subject the different joints to movements of violent torsion, without the patient being in the least conscious of it in the world. The loss of the different ideas connected with the muscular sense is likewise complete; it is impossible for the patient to determine even approximatively the attitude which has been impressed upon the different segments of his limb, the place which they occupy in space, the direction and the nature of the movements to which they have been subjected, etc.

With the exception of the left upper limb, there does not exist upon this side any modification of motility, whether in the face or in the lower limb; but upon these latter points, as well as upon the left half of the trunk, we again find the analgesia already noticed at the time of the sojourn at the Hôtel Dieu. Examination of the visual field gives us the normal state on the right side, whilst on the left there is an enormous contraction; besides, the circle of the red has been extended outside of that of the blue. There has then occurred, since the sojourn at the Hôtel Dieu, a modification in the visual field which it is interesting to note. Moreover, we observe that the hearing, smell, and taste, investigated by the usual procedures, show a very marked diminution of their activity upon the left side.

It is necessary now to endeavor to determine as much as possible the nature of this singular monoplegia supervening after a traumatism. The absence of atrophy, and of all modification of the electric reactions of the muscles, in a case where the paralysis was of ten months' standing, should make us at once reject the hypothesis of a lesion of the brachial plexus, whilst the absence of amyotrophy alone, as well as the intensity of the disorders of sensibility, allowed us to reject the idea that it was a question here of one of these paralyses, well studied by Prof. Lefort and M. Vallat, and which are produced in consequence of traumatisms affecting an articulation.

A brachial monoplegia may supervene—very exceptionally, it is true—after certain lesions of the internal capsule, as shows among others a case recently published by MM. Bennet and Campbell in the journal called *Brain;* but in such a case one would certainly not meet with the sensorial and sensitive hemi-anæsthesia which sometimes is superadded to the ordinary total hemiplegia from lesion of the capsule.

The production in the right hemisphere of a small focus, either of hemorrhage, or even of softening determined by embolism in consequence of the organic disease of the heart—a focus which one might suppose to be limited strictly to the motor zone of the arm—such a lesion, I say, might account for the existence of a left brachial monoplegia. But in such an hypothesis the paralysis would have supervened all at once, following an ictus, however slight it might be, and not progressively; it would have been marked, almost to a certainty, several months after the commencement, by a certain degree, to say the least, of contracture, and by the clearly defined exaggeration of the tendinous reflexes; finally, it would not have been accompanied, very certainly, by the disturbances of the cutaneous and deep sensibility as pronounced as those which we observe in our patient.

We had then, of necessity, to eliminate also this last hypothesis in making up the diagnosis; and that of a spinal lesion, which we do not believe ought even to be discussed, was not more admissible. On the other hand, our attention had been strongly attracted, near the commencement, to the quite significant hereditary antecedents of the subject; to his psychical state and to his habits; to the disorders of sensibility, distributed however unequally over the whole of one side of the body; to the contraction of the visual field, so pronounced on the left side and marked by the transposition of the red circle; to the modifications, finally, of the activity of the other sensorial apparatus of the same side; all this led us in a manner invincibly, especially in the absence of any other valid hypothesis, to interpret the case as an example of hysteria. Besides, the clinical characteristics of the monoplegia, its traumatic origin itself—and upon this latter point I refer you to what I have said elsewhere—were by no means in contradiction (far from it) of this view. In fact, the limitation to one limb of the motor paralysis, without participation at any time of the corresponding side of the face; the absence of marked exaltation of the tendinous reflexes, of muscular atrophy, and of all modification of the electric reactions; the absolute paralysis of the limb, continued several months after the commencement of the disease; the anæsthesia, cutaneous and deep, carried to the highest degree upon this member, and the total loss of ideas relative to the muscular sense—all these phenomena, when they are found united and clearly observed as they were with our patient, suffice largely, you know, to reveal the hysterical nature of a paralysis.

Therefore the diagnosis "hysteria" was frankly, resolutely adopted. Without doubt, the convulsive paroxysm was wanting; but you are not ignorant of the fact that it is by no means necessary to the constitution of the malady, and this circumstance ought not to arrest us. Consequently, the prognosis completely changed its aspect; we were no longer in presence of an affection of organic origin, perhaps incurable; we could wait, in spite of the long duration of the disease, to see supervene, either spontaneously or under the influence of certain measures, some one of those sudden modifications which are not rare in the history of hysterical paralysis, of flexible paralysis especially. At all events, we could foresee that, sooner or later, the malady would be cured. An ulterior event was soon to justify our previsions and at the same time fully confirm our diagnosis.

The 15th of March, four days after the admission of the patient, we sought carefully, which had not been done up to that time, to see if there existed with him any hysterogenic zones. We found, in fact, one situated under the left breast, another upon each of the iliac regions, and another, finally, upon the right testicle. It was remarked that even a slight excitation of the infra-mammary zone very readily determined the different phenomena of the aura; sensation of constriction of the thorax, then of the neck; pulsations in the temples, ringing in the ears, especially on the left side. So, by persisting a little more, P—— was seen all at once to lose consciousness, to throw himself backwards while his limbs became rigid, and we thus became a witness to the *first attack of hystero-epilepsy* which the patient had ever experienced. This attack was, moreover, absolutely classical; to the epileptoid phase soon succeeded that of the grand movements. The latter are of an extreme violence, the patient, in his movements of salutation, going so far as to strike his face against his knees. A little while after that he tears his bed-clothes and the curtains of his bed, and, turning his fury against himself, he bites his left arm. The stage of emotional attitudes is then developed. P—— appears a prey to a furious delirium; he abuses, provokes, and excites to murder imaginary persons: "Here, take your knife!—— Go!—— Strike now!" At length he recovers his mind, and when he has come to himself, he affirms that he has no recollection of what has just occurred. It is worthy of remark that, during the whole continuance of this first paroxysm, *the left upper limb has taken no part in the convulsions;* it has remained flaccid, completely motionless. From that time the paroxysms are reproduced, for the next few days spontaneously, several times, presenting, moreover, absolutely, always the same features as the provoked attack. In one of those which took place during the night of the 17th of March the patient urinated in his bed. Two other attacks occurred the 19th. The 21st a new attack supervened, *during which the left arm was agitated.* Upon waking, the patient could, to his great astonishment, voluntarily move the different segments of this member, *of which he had not been able to make any use, for a single moment, during the long period of nearly ten months.* The motor paralysis was certainly not completely cured, for there remained a certain degree of paresis, but it had been considerably improved. The disorders of sensibility alone persisted to the same degree as before. This cure, gentlemen, or to speak more correctly, this sketch of a cure, after the diagnosis upon which we had settled, ought not to surprise us. But, in our opinion, it supervened prematurely, unseasonably. In effect it became impossible, henceforth, to demonstrate to you *de visu*, in all their plenitude, as we had hoped to do, the characteristics of this monoplegia, so perfectly appropriate to study.

The idea then occurred to me that perhaps in acting upon the mind of the patient, *by way of suggestion*, even when he was awake (we had discovered previously that the subject was not hypnotizable) we might reproduce it, at least for some time. That was why, the next day, finding P——, upon coming out of an attack which had in no way modified the state of affairs, I attempted to persuade him that he was again paralyzed. "You think you are cured," said I to him, with the accent of entire conviction; "that is a mistake; you can no longer raise your arm, or bend it, any more than you can move your fingers. See, you are unable to grasp my hand, etc." The experiment succeeded wonderfully, for, after a few minutes of discussion, the monoplegia had again become as it was the evening before. I was by no means uneasy, be it said in passing, as to the issue of this paralysis artificially reproduced, for I have known by experience, for a long time, that, in the matter of suggestion, *what one has done one can undo.* Unfortunately, it did not last longer than twenty-four hours. The next day a new attack supervened, after which the voluntary movements were definitely re-established. This time all the new attempts of suggestion which we could make remained powerless. It only remains for me then, to-day, to describe to you the modifications which, so far as regards voluntary movement, were produced in consequence of an attack in the limb formerly completely paralyzed.

The patient can, as you see, move at will all parts of this member. But these movements possess but little energy. They do not overcome the least resistance that is opposed to them, and whilst on the right side the dynamometric force is indicated in the hand by the figure 70, it gives on the left but the figure 10. Then, as I have informed you, if the loss of motor power is no longer as absolute as formerly, it persists still, nevertheless, to a pretty high degree. Moreover, the disorders of sensibility are just as they were, not only in the member affected by paresis, but also upon the whole left side of the body, including the sensorial apparatus; the attacks, on the other hand, continue to be frequent. You have certainly understood that it is a question here only of amendment, and that, in order to arrive at a complete cure, much remains to be done.

I propose to recur, in order to show their full value, to some of the facts which this interesting account contains, apropos of a study upon hysterical paralysis which I intend to present to you very soon. For the present, laying aside the monoplegia which, in short, constitutes only an episode in the history of the disease, I will confine myself, in closing, to reminding you once more that, with this man, as with those who have preceded him, the grand hysteria exists, endowed with all its characteristic attributes.

Gentlemen, in studying with you, in these two lectures, the very significant six cases which chance has placed under my hand, I have desired, above all, to convince you that hysteria, even grave hysteria, is not a rare disease, at least among us in France; that it may consequently present itself, here and there, in the ordinary clinique, where the prejudices of another age could alone cause it to pass unrecognized. I dare to hope that, after so many proofs accumulated in recent times, this notion is destined to hold henceforth, in your mind, the place that it deserves to occupy there.

LECTURES.

ABSTRACTS OF LECTURES ON RHEUMATISM IN CHILDREN. Delivered at the Hospital for Sick Children, Great Ormond Street. By ANGEL MONEY, M.D., M. R. C. P.

The lecturer opined that it was legitimate to speak of a children's type of rheumatism. A typical case of rheumatism in a child might be pictured as one that presented in the course of a single attack of the malady the following phenomena: erythemata, nodules of the subcutaneous variety, now so well known, joint affection, endocarditis, and chorea. Dr. Money said that he had seen all these phenomena occur in the course of a single attack of rheumatism in a child. Briefly put, the children's rheumatism might be said to be characterised by the frequency of occurrence of erythemata, nodules, endocarditis and chorea, and by the slightness of the arthritis and pain, pyrexia and sweating. He also advanced the view that arthritis was even of very doubtful occurrence, and considered that the slight effusions about joints met with in the rheumatism of children ought to be regarded as of the nature of a periarthritis, the slight spontaneous pain and not great tenderness certainly not militating against such a view. He was of Dr. T. Barlow's opinion, that effusion into the sheaths of tendons was decidedly a feature of the rheumatism of children. The subcutaneous nodules were regarded as of the first importance in the study of the affection in childhood. Accepting Dr. Barlow's homology between them and the bases of valvular vegetations, he thought we might consider that the changes in the one were in some sense representative of the alterations in the other. It was reasonable to suppose that, so long as the nodules came and went, similar alterations might be taking place in the valvular lesions. He still adhered to his opinion expressed three years ago, that in half the cases of severe rheumatic heart disease in children nodules might be found. The greater frequency of endocarditis in children might be partially accounted for by the slight painfulness of the arthritic manifestations, which did not prevent children suffering from a moderate degree of rheumatism from running about; mechanical strain probably thus playing an important part in exciting the "nodular" valvulitis. It was by no means rare to find disease of the valves of the right side of the heart in rheumatic children. In rheumatism, chorea must be regarded, like the nodules, as a symptom, an expression of the disease. Although chorea, that attracted attention, was by no means a universal symptom of rheumatism in children, still it was remarkable, Dr. Money said, in his experience, how very frequently a slight amount of involuntary twitching of the fingers was present. Erythemata were probably even more frequently present than observed, for they were sometimes so fugacious as to be easily missed. Stiff-neck and back-ache were probably affections of the interstitial connective tissue of muscle, and not an affection of the muscular protoplasm proper. He had seen rheumatic nodules develop around a joint which at the time showed decided signs of effusion of the kind usually seen in children.

If we contemplated the course of the various rheumatic phenomena, it would be observed that they all tended to come and go, and in this respect they exhibited a series of degrees of duration beginning with erythemata, which were the least durable, passing on to periarthritis, teno-synovitis, nodules, chorea, and endocarditis. Doubtless, no absolute rule could be laid down in this regard, but the comparison was worthy of entertainment. Was there a single essential lesion in rheumatism ? Might we look upon the various rheumatic phenomena as of equivalent order ? The cause of rheumatism, whatever it might be, was liable to produce slight localized inflammations, having a remarkable tendency to subside. It was possible that an erythema might be regarded as the essential semeiological rheumatic element. In the skin such a lesion could easily pass away; in subcutaneous tissues its effects might be more marked and more lasting, though still tending to disappear; so with the heart. Could we regard the chorea of rheumatism as the result of multiple erythemata of some part of the motor apparatus of the brain and spinal cord ? It was curious that so many of the rheumatic lesions had been ascribed to embolism; it would be easy enough to regard the papular and marginal forms of erythema as due to trifling multiple embolism, just as the purpura had been so explained; likewise the migratory joint affection, as Hueter held; and why not the nodules as well as the chorea ? But embolism could hardly explain the nodular valvulitis or beading of valves; nor probably the tendency that sometimes existed for pericarditis to assume a nodular form, as both Dr. Barlow and Dr. Money had actually found at the necropsy of cases of rheumatic disease in children.

In conclusion, Dr. Money considered that the rheumatism of children was one of the most hopeful affections that the medical man could have to treat, provided that the diagnosis be made at an early stage of its development—a very large proviso. But the affection might be easily overlooked on account of the slightness of the subjective symptoms. How important was it that a most careful physical examination should be made in all cases of even slight ailments? Some of the rheumatism of children was so insidious in its operation that it was conceivable for the disease to be at work without giving signs either of a subjective or an objective order.

A child who has any signs of rheumatism about it should be kept absolutely all day and night in bed. Even if a mere uticaria or erythema be the only sign to be found, the bed should be tried for a day or two and the case watched for other members of the rheumatic series. Whilst holding that erythemata, the nodules, periarthritis, chorea and heart disease were perhaps most frequently of rheumatic origin in children, Dr. Money allowed fully that any of these symptoms might own several other causes. Not all erythemata and chorea are rheumatic, nor is all periarthritis and endocarditis of rheumatic origin.

The severity of rheumatism in children may be measured by the appearance and clinical development of the nodules. The nodules, both of the subcutaneous tissue and the valves of the heart, are a guide to the degree of rheumatism and to its character. Some kinds of rheumatism resemble the shocks of the interrupted current, and others have more of the continuous character, smouldering in its manner. Dr. Money had seen abundant crops of nodules with signs of genuine heart disease come with the suddenness of a flight of birds, and disappear almost in the same rapid but in a more straggling manner; and these severe attacks may be repeated, leaving the patient somewhat devitalized, yet with prospects of a complete restoration to health. It was quite another thing in the rheumatism that was less intense but more continuous; this was the variety which Dr. Money believed led to further fibrotic changes in the valves, and sometimes in cases of this slowly progressive course the nodules abated some of their tendency to disappear, and remained for weeks and months together. No doubt intermediate stages between these two forms existed.

As to the further treatment of rheumatism, the principles were of the simplest order, but at the bedside many details had to be borne in mind and must be acquired by the practitioner himself, for no amount of lecturing could impart the necessities of treatment of any individual case. Dr Money had faith in the employment of moderate quantities of bland fluids like barley-water or toast-and-water, to which might be added the alkaline carbonates, the effects of which were probably, he suggested, enhanced by their administration in dilute form. Salicylate of soda or salicine was of value in some cases of rheumatism in children, but in his experience of less value than in adults, whose pain and joint affection were so much more a part of their suffering.

Some of the most disheartening cases that could fall to the lot of the medical practitioner were those which presented a picture of palid cachexia simulating the appearance of a neglected case of empyema. Here the child may be breathing rapidly, with a dry skin and clubbed fingers; with severe heart disease manifested in the rapid heaving action, loud murmurs, and thrills; with bronchitis, worse in the left lung, and even with patches of pleurisy about the bases of the lungs and elsewhere; with nodules about the ankles and elbows, considerable emaciation, and an almost undiscoverable effusion about two or three joints; and yet with temperature that does not transcend 101° in the course of the twenty-four hours, and which may for a greater part of the time be not above 99° or even the normal.—*Lancet.*

SELECTIONS.

Tonsillitis and its Relation to Scarlatina and Diphtheria.

By R. Hingston Fox, M. D., M. R. C. P.

Inflammations of the tonsils present manifold varieties and gradations. It is convenient to include in the term "tonsillitis" some forms of inflamed throat in which the implication of the tonsil is a less striking feature. The tonsils do not stand alone, but the mucous membrane in their vicinity is studded with nodules of a similar structure—*i. e.*, of lymphatic tissue; these are most abundant on the back of the tongue at its root, but exist also on the sides of the faucial aperture. The presence of these lymphatic organs is an especial characteristic of the fauces, and inflammation of the fauces, involving these structures generally, may well be included in the forms of tonsillitis. Catarrh of the fauces, however, such as is associated with nasal and phrayngeal catarrh, will not be considered here; it involves the tonsil little, if at all, and occurs in a different class of subjects from that affected by ordinary tonsillitis. Passing over the specific varieties due to syphilis, tubercle, variola, etc., we meet commonly with certain clinical types of tonsillitis. By *true quinsy* I mean the recurrent "inflammatory sore throat" (Trousseau), which results in abscess in or (more often) about *one* tonsil. The sudden onset, acute pyrexia, and rapid inflammatory œdema are distinctive features. We come next to the common tonsillitis, long since clearly described by Dr. Anstie, who distinguished it from the suppurative form. The term "follicular" is often applied to this affection, being derived from the fact that the crypts on the surface of the tonsils, formerly called follicles, are often plugged with exudation (hence "spotted throat"); it is a bad designation, since the word "follicle" is now more often applied to the nodules of lymphoid tissue of which the gland consists. The name "septic tonsillitis" is provisionally adopted here.

A family of four children (age from four to eight years) began to ail three or four days after their return from the seaside in September, 1884. The eldest girl was affected with headache, sore-throat, coated tongue, and loss of appetite. The other three children followed. Each was slightly feverish, the highest morning temperature (in the mouth) being 100.1°, 100°, 99°, and 100.8°. The fauces were red, both tonsils were swollen, and in one case they presented little pocky eminences. Within a fortnight all were well. Some of these children have at various times suffered from sore throats, true diphtheria, severe mumps, and rheumatism, as well as chronic enlargement of the tonsils. In searching for the cause of the tonsillitis, it transpired that, on their arrival at home, the children had drank greedily from a covered in-door cistern in which the water had stood stagnant and tepid for several weeks.

These cases exemplify the leading features of septic tonsillitis in a mild form; its attacking a group of persons in one household, often children; the brief pyrexia; both tonsils are attacked at once, being swollen and reddened, and they may present small yellowish or greyish white patches. There is not the acute infiltration of the surrounding tissues seen in true quinsy. The cause seemed in these cases to be derived from impure drinking-water. Dr. Anstie attributed the affection to defective drainage or ventilation. As a rule, there is no evidence of communication from one person to another.

This disease has now and then prevailed in extensive outbreaks—either in a certain district, or in a school or other large institution. Instances of the first are reported by Dr. F. P. Atkinson and others, and by several French writers (Morell Mackenzie); of the second, by Mr. G. A. Cardew of Cheltenham, and by Dr. Haig-Brown of Godalming in a paper lately read before the Association of Medical Officers of Schools. Is there any connection between septic tonsillitis and true quinsy? Most English writers still make no distinction between them. Yet in typical cases they appear wholly distinct. Suppuration perhaps occurs in rare cases of the former affection, but this would not prove any connection with true quinsy.

Tonsillitis, often of a severe type, is a prominent symptom both in scarlatina and diphtheria. This will be again referred to.

We pass on to cases of a more mixed and doubtful character. In the Proceedings of the Medical Society of London* outbreaks of "infectious sore-throat" are described by Drs. Farquharson, Routh, and Crisp. Dr. Routh's forty-six cases occurred in a public institution where the water was impure. Three types were distinguished—simple cynanche, sore throat with diphtheritic patches, and scarlatina. Dr. Crisp's outbreak was located in Chelsea along the river side, and was attributed to the opening of some large drains. There were forty-two cases of "mild scarlatina," mainly in children, and fifty-six cases of "epidemic sore throat" with large inflamed tonsils, mainly in adults who had had scarlatina already. Outbreaks of this mixed character have been described in several of Mr. H. W. Power's reports, and by Mr. Hartnoll of Exeter; others have been recorded by Dr. Bond of Gloucester, Dr. Mantle† of Chester-le-Street, and Dr. J. Craig of Llandudno. The last three accord with the description of "Pseudo-diphtheritis" given by Dr. H. Ashby of Manchester in the *Practitioner* (vol. xxxi., p. 414).

These records show that it is not uncommon, in the presence of faults in the air and water supply, for temporary outbreaks of mixed forms of tonsillitis to occur, sometimes infectious in their character. Cases which would commonly be described as scarlatina and as diphtheria, with others of mere tonsillitis, are found together, with cases of a mixed type, well-nigh impossible to assign to either of the former classes, and all apparently depending upon a common cause. Or the latter type may alone be present (pseudo-diptheritis). Such outbreaks seem to hold an intermediate position between tonsillitis and the specific fevers. This leads me to the following proposition: that scarlatina and diphtheria may be regarded as essentially forms of tonsillitis which have acquired infective characters; that is, they differ from other forms of tonsillitis in having the power of *infecting the system* generally, and producing the phenomena of a specific disease. In speaking of these diseases as forms of tonsillitis, I would not do so in any narrow sense. They belong, probably, to that large class of diseases whose poisons reach the blood by way of the lymphatic system, their distinguishing character being that they are prone to enter that system through the tonsil, setting up tonsillitis. In ordinary tonsillitis the poison scarcely gets further than the tonsil. The term "poison" is here used as a convenient expression for the organic *materies morbi,* capable of multiplication, and including (it is probable) both a bacterium and the products of its growth.

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* Vol. i., p. 124; vol. ii., p. 35; vol. iii., pp. 27, 112.

† See Dr. Mantle's paper in British Medical Journal, 1885, vol. ii., p. 960. Dr. Mantle informs me that he sees many such cases, unequivocally infectious, occurring "in a crowded colliery district . . . houses too crowded and badly ventilated, and drainage very defective."

I digress here to say a few words on the functions of the tonsils in health. These organs consist of a mass of closed sacs or nodules, identical in structure with those of the solitary and Peyer's glands, and indeed of the ordinary lymphatic glands of the body. Some small mucous glands open into the crypts on the surface (Landois), but these are quite insignificant. The old view that the tonsils are secreting organs is untenable, since their structure is that of absorbent glands in general, aggregations of leucocytes enclosed in retiform tissue. Their functions also must be of the absorbent kind. In the July number of the *Journal of Anatomy and Physiology* I show some grounds for believing that this absorbent function is connected with the saliva; that from the constant slow stream of salivary fluid which is passing over their surface during the intervals between meals, the tonsils, being themselves nurseries of young leucocytes, absorb certain elements to minister to the growth of the white cells. This theory is not in any way essential to the present argument, but, if true, it would afford an interesting parallel, showing how closely pathological processes follow on the lines of physiology. Thus, in health, food matter, perhaps a ferment, would be absorbed from the saliva and stimulate the tonsil to healthy activity. In disease, a poison, perhaps also a ferment, is absorbed from the saliva and over-stimulates the tonsil; there is over-activity, multiplication of ill-formed cells, and other phenomena of inflammation.

To resume, the poison of septic tonsillitis gives rise to the clinical signs of a process of this kind, and little more. The products of its growth do, indeed, enter the system, and cause some brief constitutional disturbance; but the living poison itself has little power of overcoming the resistance of the tissues. The system is not infected by it; it soon dies or loses its toxic properties, being incapable of reproducing itself in the human body to any great extent, if at all. Other poisons of the same class, but better adapted for living in the human organism, thrive therein, infecting the system generally, and producing symptoms of graver character and longer duration—in fact, running through the course of a specific fever (scarlatina or diphtheria). Such a poison is able to go on reproducing itself in the human tissues for a considerable period, and without losing its poisonous properties, so that by the time it is (to adopt Dr. Fagge's expression) destroyed by the pyrexia which it has set up it has caused the series of lesions belonging to the specific fever. It has also by this time become enormously multiplied, and particles of the tissues containing the poison being shed and communicated to other human beings, set on foot in them like processes, being, in fact, *contagia*. Now, in the power which the poison possesses of so far overcoming the resistance of the tissues of the human body as to reproduce itself largely therein without marked deterioration, so that offspring remotely removed from the original stock still produce the same effects in the tissues of a fresh human subject—in this power may we not recognize the characteristic of a *species* of disease? Some affections—e. g., various forms of infectious sore-throat—possess this power in a limited degree, and chiefly when associated with septic conditions (as the presence of putrefying matter in air or water, etc.); but scarlatina has apparently an indefinite power of reproduction, and largely independent of septic conditions. In accordance with the doctrines of evolution, we may suppose that the specific poison has been gradually developed from the group of non-specific poisons of tonsillitis, which present a varying capacity of infecting the system.

The above scheme contains much that is hypothetical, but it furnishes an explanation of the facts already stated, especially of the occurrence of "intermediate forms." Some further facts will now be added in support of the theory. It is a frequent observation, made by Trousseau and by many others since, that common tonsillitis is very prevalent when either scarlatina or diphtheria is epidemic. Again, all these diseases are often either dependent for their spread on septic conditions, or are more active under such conditions. Some believe that scarlatina occasionally arises *de novo* under such circumstances, whilst many consider that diphtheria so arises. "A striking feature of scarlatina is the great variability of its symptoms and of its course" (Fagge). Tonsillitis is, I submit, the most constant of its symptoms. It is notorious that in mild, scarcely recognized cases of scarlatina, sore-throat is the only symptom observed. Yet such cases often communicate the disease. In other rare cases it is stated that a rash has been present, and no affection of the throat. Space will not admit of reference to the literature of this subject; I will only say that there is fair ground for question whether a tonsillitis, too slight to cause any complaint, did not exist in all such cases. In some cases of scarlatina, again, we see the tonsils covered with a thick membranous investment. Thomas and others say that true diphtheria is then concurrent. Niemeyer, Senator, and I think most English authorities, hold, on the other hand, that diphtheritic pharyngitis may be the result of the scarlatinal poison alone. Whichever view be taken, there appears to be a close connection between these two diseases.

Diphtheria has been classed as in an intermediate position between specific zymotic fevers and common local inflammatory diseases (Parsons), and some have even assigned it to the latter category. At any rate, it has not, as a specific fever, acquired the stability of scarlatina, measles, etc. Oertel (in Ziemssen's Cyclopædia) and Loeffler have ably maintained that the process in diphtheria is at first entirely local, the constitutional effects being due to a poison developed at the seat of attack—i. e., at the fauces in ordinary diphtheria. The primary local lesion also presents great variety. Senator describes four chief types, ranging from simple catarrh to fibrinous exudation. Yet the peculiar paralytic sequelæ may follow in cases where the throat lesion was so slight as to be unrecognized. Some have maintained that ordinary tonsillitis is in rare instances followed by these paralyses. Such cases surely belong to diphtheria; nevertheless, the statement illustrates our present point—the closeness with which this disease approaches to ordinary tonsillitis—so that there is hardly a line of demarcation between them.

In "surgical scarlatina," the disease is said to be contracted by inoculation of the highly absorbent surface of recent wounds. Such a surface may afford facilities for the entrance of the poison into the lymphatic system; this would not controvert the more usual entry at the tonsils. (The notion that the infection may be received by the unbroken skin is now generally abandoned.) Diphtheria of other mucous surfaces and of wounds presents us, perhaps, with a parallel condition to that last mentioned. Whether in such cases the fauces are afterwards affected is a question not yet fully settled.

This necessarily brief treatment of a large subject may seem inadequate. The theory advanced is an honest attempt to explain existing facts.—*Lancet.*

IRREGULARITIES OF LOCOMOTION IN CHILDREN. By Noble Smith, Surgeon to All-Saints Children's Hospital, London.

It will probably be conceded that irregularity of walking in a child generally indicates some abnormal physical condition. It may result perhaps simply from general debility, but far more often it depends upon the presence or co-existence of some local mischief.

Disease of the spine; disease of the hip, knee, or ankle joints; knock-knees; bowed legs; laxity of joints; pain or difficulty resulting from badly-shaped boots or other badly-fitting garments; abnormal contractions of muscles; paralysis of muscles; congenital dislocation of hip-joint, and asymetry of form, are the chief causes we meet with.

There are, of course, other causes which may retard or modify the walking powers, as, for instance, the cicatrix from a severe burn, or the effects of other severe injury, but I am here rather referring to the causes which develop insiduously, and of which the difficulty in walking is probably the first symptom.

Caries of the spine is a disease which often makes considerable progress before it is detected. A patient may even die from this disease, without its nature having been detected. A child was once admitted into Guy's Hospital with symptoms which were attributed to croup; he died in a few hours, and it was found that the only disease present was caries of the spine, which had produced an abscess which burst into the throat. This disease may produce lameness. Its inflammatory action may cause irritation of nerves proceeding from the spinal foramina, and thus from pain alone in peripheral parts, or from muscular disability, the walking powers may be interfered with. We all know how in advanced cases of caries the functions of the spinal cord may be interfered with, we are familiar with the spasmodic twitchings, the violent jerkings which the legs are apt to undergo, irrespective of the patient's will. We also are aware how this disease may paralyze the limbs entirely, and sever all control by the patient of his excretory functions, but we may easily overlook the slighter grades of these evils and fail to recognize, in certain defects of the walking powers, the early symptoms of this serious surgical disease.

Disease of those vertebræ to which the psoas muscles are attached, or encroachment of an abscess within the sheaths, may lead to morbid action of these muscles, pain or difficulty in ascending and descending stairs being prominent symptoms. Subsequently the muscle on one or both sides may become permanently contracted, a condition which is beyond the power of the knife, although within the range of mechanical extension.

The position of the body when caries has advanced beyond its earliest stage, the forward bending and propping of the trunk by the hands upon the thighs is too well known and too distinctive of the mischief to need description here, although it greatly modifies the manner of progression. Upon the other hand, some children suffering from this disease hold themselves in a remarkably upright manner, both in sitting and walking, and are especially noticeable for the stateliness of their gait.

The peculiarities of progression which accompany spondylolisthesis have been carefully described by Neugebauer, and do not bear upon the present subject, nor do I think it necessary to discuss the manner of walking in paralysis of dorsal and abdominal muscles respectively.

Weakness of the spine, and various forms of lateral curvature, give rise to such a great variety of ways of walking, that it would be very difficult to describe them well, and it must suffice to refer to such a cause as one which may occur.

Disease of a hip-joint is so frequently first indicated by a limping movement in progression, that its character is quite well known and usually recognized. Before a distinct limp, however, I have frequently found that a child complains of weariness in walking, and its manner has been ascribed to laziness or general illness. The manner of walking in this early stage will be found to consist simply or chiefly in *favoring* of the affected leg. When pain supervenes, and we analyze the cases carefully, we find a variety of modes of halt in correspondence to the seat of pain, whether occurring on the inside of the knee, in the joint itself, from reflex pain in the obturator nerve, or upon the front of the knee and inner side of the ankle, from pain in the anterior crural, or behind and at the inner side of the knee, or at the outer and inner side of and behind the ankle, from irritation of the sciatic.

I have also met with several cases in which the only pain at first has been just below the centre of Poupart's ligament, from the crural branch of the crural nerve. The latter pain causes a peculiar bending forward of the body in walking, which, I think, differs from most other lamenesses, and indicates, I should imagine, that the disease exists chiefly in the front part of the joint.

It is perhaps well here to describe the peculiarities of gait in cases of congenital dislocation of the hip joint.

The movement which is peculiar to this affection is a rolling, somewhat labored gait, although generally rather rapid. There is distinct lameness, although there is no pain. This applies to the cases in which the dislocation is double, when, as usually occurs, the displacement is upwards and backwards upon the dorsum of the ilium. The body is placed in a position of considerable lumbar lordosis. The thighs are inclined inwards, and abduction is very limited, and the toes may turn inwards. In commencing to walk the body is thrown to the side of the progressed foot upon the front part of the foot, and then the other foot is lifted with an effort, and brought forward.

When one side only is affected, there is less irregularity of progression, although its nature is similar. I have a case under treatment in which one leg only is affected, and in which the displacement is directly upwards, there is much less difficulty in walking, and that was chiefly dependent upon the consequent shortening; a defect which has been almost entirely relieved by equalizing the length of the legs. The patient generally walks better when he walks quickly. The degree of difficulty varies greatly.

In cases of knock-knee, when the deformity is well developed, there can be little difficulty in forming a diagnosis. The walk is very shuffling, the knees are frequently bent, the body leaned forward and the toes turned in, one knee crossing the other as one or other leg is advanced. The foot may be flat and inclined to valgus, or a varus position may exist. Turning the toes in is frequently the first point noticed in the early stages of these cases. In slight cases when the legs can be fixed in a straight line by means of splints, the child almost invariably walks with the toes turned in, as this way of walking is far easier when the knees are kept straight; but, as a rule, it need not cause anxiety, because the turning of the leg, when splints are firmly fixed, takes place generally at the hip joint, and may easily be corrected subsequently when the splints are discarded; but in some cases there is a twisting of the leg below the knee which requires more attention. It is different without splints, if the knee joints happen to be lax; a common condition because the twisting takes place then at the knee, and if not corrected may lead to permanent deformity.

In cases of club-foot or weak ankle it often happens that this laxity of the joint exists, and then it becomes necessary to prolong the foot apparatus by a stem to the thigh with a free joint at the knee, a very light instrument being sufficient to keep the knee-joint working in its natural direction. This weakness of a knee joint seems sometimes to be due to a congenital deficiency, and may accompany congenital contractions or deficiencies in the foot or elsewhere.

In cases of bowed legs the patients are obliged to walk with the feet more or less apart, and a straddling manner of progression is adopted. The curving of the leg bones causes the sole of each foot to present inwards as well as downwards, and in order to bring the soles flat to the ground the feet have to be separated widely. The legs of a child when walking thus form an arch, and it is often thought that the whole of the lower extremities are curved. Of course in some cases the femurs are bent outwards also, but as a rule the appearance just described depends upon the curvature of the leg bones alone.

Contraction of muscles is often a cause of irregularity of walking, and may prevent walking entirely. A child who, at six years of age, had never walked at all, I found with its feet distorted in the equino-varus position, the knees also contracted, and the thighs contracted upon the trunk. After correcting the first deformities by means of mechanical pressure, I had to divide the contracted tensor vaginæ femoris on each side. The child was then able to walk a little, but still carried the body far forwards, and there was much lumbar lodorsis; but he is gradually improving.

Contraction of the adductors causes the patient to walk as if the legs were tied together. But when only one leg is affected, the symptoms may be difficult to diagnose. Moreover, there may be pain caused in the thigh where the adductor longus is attached, and I have known such a case to simulate hip-joint disease. The pain would complicate the manner of walking, causing limping; contraction of one foot in the equinus position causes the patient to walk more or less upon the front of the foot; the knee is bent and the patient limps; after some time the knee may give way inwardly and the head of the tibia sink backwards. This may lead to a condition of hyperextension, which may be more difficult to overcome than the deformity of the foot. When the foot is only contracted into a right-angled position the symptoms are not very distinct to a casual observer. Pain in the ball of the great toe is often the only symptom complained of, or there may be also fatigue in the whole foot or only in the instep. Upon examination of the foot the most conspicuous sign will be contraction of the extensor longus digitorum, and I have known the tendons of this muscle divided in the belief that it was the cause of the trouble, whereas this depended upon the contraction upwards of the heel, and section of the tendo Achillis is the remedy, and an effective one.

Contractions of the feet in other directions have their own peculiarities, which may be studied in individual cases.

In paralysis the peculiar dragging of an affected leg is well known; it of course varies with the degree of disability. When the flexors of the thigh happen to be affected, the difficulty is great, for the whole limb has to be thrown forward by an effort of the trunk, and a considerable curvature of the spine to the opposite side will be produced in the lumbar region. All these errors of locomotion may be relieved or removed by mechanical apparatus, and in the last mentioned cases great help may be afforded and relief to the spine given by the use of an elastic cord extending from the waist upon the sound side to the knee of the paralyzed limb, supplying to some degree the lost flexors.

Pseudo-hypertrophic paralysis is another occasional cause of difficulty or inability to walk in children.

In diagnosing the cause of irregular locomotion, the surgeon should always examine carefully the comparative length of the limbs. Shortness of one or other limb is a very common condition. This may be the result of infantile paralysis, which may still be present, or may have wholly or partially been recovered from. There may have been an injury to an epiphysis, retarding development in length, or some abnormal action upon the longer leg may have caused that one to grow in excess, or there may be no apparent cause.

Badly-shaped boots are a common enough cause of lameness or difficulty in walking, and tight garters or other articles of dress are not to be forgotten as possible impediments. Flat feet, distorted toes, bunions, and other local troubles may also give rise to walking troubles, which should be borne in mind in forming a diagnosis.

I cannot consider this paper otherwise than a mere sketch of a subject which might be greatly elaborated. It is not always easy to obtain sufficiently accurate information from young children as to their feelings, and therefore the study of their objective symptoms becomes a matter of considerable importance, and the peculiarities of locomotion under various modifying circumstances occupy, it seems to me, a prominent position among the latter.—*Archives of Pediatrics.*

THE CARDIAC COMPLICATIONS OF BRIGHT'S DISEASE.—By James T. Whittaker, M. D., Professor of the Theory and Practice of Medicine, and of Clinical Medicine in the Medical College of Ohio, Cincinnati.

The heart and the kidneys stand in relation to each other, in the machinery of man, as the feeding or force-pump and the escape or waste-water pipe. Disease of either one of these organs is, therefore, of necessity, attended, sooner or later, with disease of the other.

In this relation the disease process may begin in the heart. In the general interference with the circulation which then ensues, stasis in the kidneys is revealed by a diminution in the quantity of urine, which becomes dark and heavy, shows thick deposits of urates, and later albumen, hyaline cylinders, and blood-corpuscles. Both acute and chronic nephritis may thus develop from endocarditis or myocarditis.

Or, the kidneys may be affected secondarily by becoming the repositories of emboli, benign or malignant, with hemorrhagic infarctions and so-called metastatic abscesses, which reveal themselves by the sudden appearance of hæmaturia, by suppression of urine, or may remain latent, to be discovered only upon autopsy.

Next, both heart and kidneys may be affected simultaneously under the operation of the same cause, as by alcoholism, syphilis, or gout, as well as in the general wreck of the so-called arterio-capillary sclerosis.

Lastly, the disease process begins in the kidneys, and leads consecutively to disease of the heart, to pericarditis, more rarely to endocarditis, but most especially to hypertrophy of the left ventricle, a complication universally observed ever since its presence was first pointed out by Bright, though its significance has received proper interpretation only within recent years.

This curious condition, which we know now to be compensatory—hence, to be favored and sustained in every way—is the sole cardiac complication which the limit of time allotted will permit me to discuss

Hypertrophy of the left ventricle belongs to Bright's disease as much as do dropsy, albuminuria, and uræmia. It is one of the cardinal symptoms of the disease, but it rises above the other signs—rises, in fact, to physiological dignity, in that it expresses an effort to overcome or neutralize the main effects of the disease.

It should be remarked, in the first place, that hypertrophy of the left ventricle is present in every case of chronic nephritis. The view that it occurs only in renal cirrhosis, in the so-called granular, contracted, or atrophied form of the disease, and is limited to this form, has been shown to be entirely erroneous. There is no such thing as a chronic nephritis without hypertrophy of the heart, unless, indeed, in the fortunately few cases where the patient is too feeble to develop an increase of tissue in any organ. Apparent but not real exception is also offered in the last stages of Bright's disease, when the hypertrophy has finally given place to dilatation as a last link in the chain of the disease process. The statement of Bartel's that any hypertrophy of the heart without valve lesion to account for it ought to direct attention to renal cirrhosis should be modified to read, should excite suspicion of Bright's disease in general. A hard, wiry pulse, in the absence of fever or of any superficial evident disease, is enough, of itself, to excite this suspicion in the mind of the alert practitioner, and the sign is all the more valuable in that it shows itself early in the insidious course of this disease, months and sometimes years before nervous symptoms, dropsy, or failure of nutrition suggest the nature of the affection. For the increase in the impact of the heart is frequently to be observed in the course of two to four weeks from the inception of the disease, when this period may be determined, at which time it is already demonstratable on autopsy. It develops quickest and most completely in the healthy and robust.

Theories only prevail as yet regarding the cause of it. Bright, who, as remarked, discovered it, but who could not at that time realize the importance of it, adopted the conservative view that it was caused either by the irregular and unusual irritation of the heart produced by the changed condition of the blood, or by the call upon the heart for increased activity to force the blood through distant contracted blood-vessels. Bright thus announced the two theories, chemical and mechanical, which still find advocates in the present day. In 1856 Traube published his support of the mechanical view in a paper that has been widely quoted ever since. He noticed it in connection only with the contracted kidney, and made it diagnostic of this form of Bright's disease. He derived it from the diminution in the quantity of blood flowing through the kidney, diminution also in the quantity of urine excreted, with the consequent accumulation of fluid in the aortic system and elevation of blood pressure. Traube established the theory of compensation.

In refutation of this view it has been shown, first, that after extirpation of an entire kidney or the amputation of an entire member, with the consequent ablation of a much greater number of capillaries, whole systems of capillaries in fact, hypertrophy of the heart does not ensue, as the blood finds escape to other vessels, in the case of the kidney to the other kidney, which enlarges to do double duty; second, that hypertrophy develops also in cases where there is no atrophy of the kidney substance, as in chronic parenchymatous nephritis; third, that there is no diminution, but, on the contrary, an increase in the excretion of urine in the granulated kidney; fourth, that ligation of the ureters alone is followed by this hypertrophy.

But these objections have been more or less successfully met thus: first, that the cases of extirpation of the kidney have not been watched long enough to observe gradual and remote effects upon the heart. Grawitz and Israel in their experiments upon rabbits, and Lewinsky in his experiments upon dogs, in securing not sudden but gradual occlusion of the renal arteries, such as occurs in disease, invariably saw degeneration of the kidney structure ensue with hypertrophy of the left ventricle of the heart; second, that while this hypertropy does follow parenchymatous nephritis, there is none the less occlusion in this form of Bright's disease; third, that while the quantity of water is increased in renal cirrhosis, the blood-pressure is undoubtedly raised in the aorta to produce the increase in the water excreted; and fourth, that ligation of the ureters produces disease of the kidneys leading at times to obstruction of the circulation, and when this obstruction does not occur, as in cases of pyelitis, no hypertrophy of the heart ensues.

From this summary of the evidence, it must be admitted that the bulk of testimony favors the mechanical theory and puts this hypertrophy in the same position as that which ensues upon valvular defects, or as that which occurs in the right ventricle in consequence of any block in the lungs. It is difficult to subscribe to the chemical theory of hypertrophy as advocated recently by Frerichs and Senator in the face of the fact that uræmia or retention of any toxic elements of the urine from other cause, as from cystitis, pyelitis, etc., is not attended by hypertrophy of the heart. There is abundant analogy in the body for hypertrophy in face of obstruction, that is, hypertrophy and hyperplasia, increase in size from increase of activity, but none for increase in anatomical elements under the action of a poison.

Inasmuch as the hypertrophy is preceded by a rise in tension in the aortic system, the pulse shows changes before the heart. It becomes, as stated, full and hard. It is at this time also slow, and while its frequency is increased with the development of the ventricular hypertrophy, it remains full and hard until the force of the heart finally begins to flag. The pulse now becomes rapid, feeble, and in the last stages flutters, so that most cases, unrecognized hitherto, are regarded as cases of simple heart disease. Then, inasmuch as the last stages of primary heart disease involves the kidneys with consecutive lesions, it is at times impossible to declare the order or sequence of the disease process, though this fact has at this time little or no clinical value, as the subsequent duration of life is short. The recognition of this relation between the heart and kidneys gives a satisfactory explanation to the popular belief that Bright's disease is on the increase in modern times, for many cases of primary Bright's disease were formerly regarded as cases of heart disease.

Of far higher value is the early recognition of Bright's disease before extensive lesions in the kidneys have been produced, for it is only at this time that the disease process may be checked or cured.

Where the suspicions of the physician are once excited, the diagnosis of Bright's disease is usually easy enough. The practitioner who makes it a habit to test the urine, if only by heat, in every case of chronic disease is rarely led astray. But the observation must be made with constant knowledge of the fact that while the presence of albumen in a general way denotes disease, the absence of it by no means of necessity excludes it, as it is exactly in the cases of renal cirrhosis, in which for days at a time not a trace of albumen may show in the urine, healthy urine being voided from regions of the kidney entirely unaffected by disease, while the diseased parts are completely blocked.

In all these cases, as well as in those where the patient presents himself with a diagnosis of heart disease when no valve-lesion can be found to account for it, the kidneys should be suspected and scrutinized for symptoms immediate and remote.

Hypertrophy of the left ventricle reveals itself first by a slight deviation of the apex to the left. Obesity, or, later, anasarca or hydrops, may conceal or obscure the increase in size, but nothing may conceal or obscure the dislocation of the apex beat. A heart which shows its apicial stroke below or to the left of the nipple is either enlarged or out of place. Various extrinsic causes may also produce the condition, but they may be more or less eliminated in the history of the case. At least, a pleuritic effusion or a tuberculous change in the lung tissue, the most common extrinsic causes, should not long embarrass a diagnosis. Hypertrophy from endocarditis would distinguish itself by a characteristic bruit, as well as by accentuation of unaffected valves.

The increase in the size of the heart manifests itself by dullness, which extends to the left of the mammary line. In a pronounced case this increased dullness is readily recognized, but when slight in degree it is not so valuable as deviation of the apex. Perhaps it is not unfair to say that moderate hypertrophy of the heart makes itself manifest to most of us by the increased area, not of dullness, but of impact to the hand laid flat upon the surface of the chest, or to the face in auscultation of cardiac sounds.

The next most valuable sign of this hypertrophy is accentuation of the second aortic tone. The reason of this is obvious. The hypertrophied ventricle forces its blood into the aorta, which is already distended, and the closure of the aortic valves follows under pressure with a quick, short click—in short, with a distinct accentuation audible all over the heart, but in greatest intensity at the base, on the right of the sternum, at the junction of the second rib. Now just as accentuation of the pulmonic valve sound, which is heard in its maximum intensity on the left of the sternum, points to hypertrophy of the right ventricle from mitral regurgitation due chiefly to endocarditis, does accentuation of the aortic sound point to hypertrophy of the left ventricle due chiefly to Bright's disease.

These four signs—increased tension of the radial artery, dislocation of the apex to the left, increased dullness and impact, and accentuation of the second aortic tone—constitute the phenomena of this principal cardiac complication of Bright's disease. The importance of them becomes evident with the observation that they all exist at a time when there may be no subjective symptoms pointing to the heart.

But the compensation of this hypertrophy is not always exact. It may reach extremes in both directions, of excess and of failure. In otherwise healthy, vigorous subjects, more especially in those leading indolent or sedentary lives, or in children with abundant nutrition, it reaches a degree at times superior to the demand. Attacks of violent palpitation may then ensue with audible throbbing and marked increase of impact which makes itself manifest in yielding chest-walls as visible elevations or prominent bulgings of the surface. Hyperæmia of the brain occurs in these cases, with intense headaches and vertigo entirely independent of uræmia, and epistaxis may be frequent and severe. Strümpell reports two cases of fatal nose-bleed from this cause.

On the other hand, in constitutions enfeebled by original construction or by acquired disease, the cardiac hypertrophy may fail to develop, and in all cases sooner or later it must fall short under the gradually increasing demands. The nice compensation which has hitherto sufficed to obviate the main danger of nephritis, the retention or non-excretion of sufficient urine, becomes disturbed, and the signs of accumulation of toxic elements speedily ensue.

The first sign of a flagging heart is noticed in the pulse, which loses its hardness to become frequent and small. The great evil of stasis in the lungs from incomplete emptying of the left ventricle, accumulation in the left auricle and pulmonary veins, is counteracted for a short time by hypertrophy of the right ventricle which now sets in. But it is a work of Sisyphus that is thus thrown upon the right ventricle. It soon yields to the strain, and dilatation is evidenced in the attacks of bronchitis, dyspnœa, asthma, and œdema pulmonum which soon supervene. There is headache from anæmia of the brain, and general dropsy, which commences about the ankles and eyelids, mounts to the genital organs, and, invading the serous sacs, soon puts an end to the scene.

Bright's disease is subject to many accidents, the mention of which is superfluous here; but a few of these accidents may occur while the heart is able to compensate the defect in the kidneys. So long as the increase in its size may enable it to force more blood through vessels yet unobstructed in the kidney, neither dropsy nor uræmia may ensue. The gradually increasing hypertrophy of the heart is the reserve guard that is brought to bear upon the enemy in front. The successful therapy of Bright's disease calls, therefore, for a close regard of the condition of the heart. When the compensation is excessive, so to speak, the heart should be quieted, above all things, by rest, by the use of the bromides, possibly by an occasional dose of chloral, or, if necessary, by the application of an ice-bag over its walls. Gentle exercise is indicated after the acute explosion of the attack.

But it is the failure that is to be feared more than the excess. Here, above all things, is absolute rest to be secured. Where the means of the patient will permit, nothing is so valuable as a sojourn in a warm and equable climate. I have myself seen several cases of pronounced Bright's disease cured by a winter's stay in Florida or Nassau. For the mass of patients confinement, not only to the house, but to bed, secures, with an equable temperature, the best conservation of the force of the heart. Sooner or later appeal must be made to digitalis. It should be given first in small doses, lest it overstimulate, to be gradually increased according to demand, and discontinued, lest it exhaust—so soon as its effect is apparent upon the heart. The best preparation is known to be the infusion, freshly prepared from the leaves. It should be given to adults in doses varying from a teaspoonful to a tablespoonful, every two or three hours, with knowledge of the fact that it does not begin to show decided effects for twelve hours, and continues as long after its administration is stopped. Should it be continued long after its full effect is produced upon the pulse, the heart is tetanized, and the patient falls into collapse. Its diuretic action is much increased by the addition of the acetate of potash, but the infusion does not keep so well with this addition.

It is indeed a fatal mistake to administer digitalis while the heart is still adequate to the work of compensation. Neither uræmia nor albuminuria, of necessity, calls for digitalis. Dropsy is, in general, the best indication, because dropsy indicates inadequate compensation on the part of the heart, which is also, and often in the absence of dropsy, manifest in the condition of the pulse. Other symptoms of Bright's disease are infinitely better treated by appeal to the skin, wherein prolonged hot baths outrank all other remedies.

When the heart has fully responded to digitalis, and its further administration is contraindicated by the state of the pulse, tonic effects are best sustained by arsenic and iron; and when, finally, the heart no longer responds to digitalis, resort must be had for relief of symptoms to alcohol and morphia. But this day may be long delayed by a vigilant supervision of the heart, which, next to the secretion directly from the kidneys, most distinctly gauges the state of the disease.—*Medical News.*

THE TREATMENT OF FRACTURES OF THE PATELLA. By Frederick Treves, F.R.C.S.

There are few fractures upon the treatment of which more ingenuity has been expended than upon fractures of the patella. Every period of surgical activity has added to the number of curative appliances at the disposal of the surgeon. Within the last few years certain operative procedures have been devised for the treatment of this lesion that, although they have been extolled by many, have not been accepted by all, and have certainly not passed into the undisturbed territory of routine practice.

From these facts it is to be inferred that the methods for dealing with this common injury are not yet entirely satisfactory, and that the discussion of the subject is not yet closed. There are certain cases where the fracture is transverse, and where the fibrous expansions by the side of the bone are untorn, that present so little disturbance of parts, that the mere securing of the limb upon a straight back splint is a fairly sufficient treatment. It must be owned also that, in examples of this lesion of a less uncomplicated character, satisfactory results are obtained by the various combinations of splints and strapping that are very generally in use. The employment also of Malgaigne's hooks applied to felt discs, moulded over the two fragments, has met with a certain success. Of these various measures, however, it may be said that their use requires constant care, that the results obtained in cases of apparently equal severity are not uniform, and that, in not a few instances, they prove more or less inefficient.

The operative measures recently introduced are thus thrust into notice. The first of these is that known as Lister's operation. Here the knee-joint is opened and its contents evacuated, the broken surfaces are well bared, and the fragments united by a wire inserted through drilled holes. To ensure the success of this operation, the knee-joint must be carefully drained. One great point in its favor is that it allows the surgeon to get rid of certain real or supposed obstacles to sound union—the fibrous fragments that may find their way between the bone ends, the effusion in the joint, and the blood-clot.

The objections to the measure are these: The operation is somewhat extensive, and not without risk; an anæsthetic is required; one median suture is employed, and, where the fracture is irregular, that alone may not serve to maintain true contact. In some cases this treatment has failed. I have employed it in one instance only. The patient was a muscular man, engaged as a mill-stone maker. All the ordinary means to secure apposition failed. With the suture (that was retained) perfect contact was brought about, and the parts healed without disturbance, and without rise of temperature. Two years have now elapsed, and the man, although engaged in very laborious work, has what is, apparently, a normal patella, and full use of the knee-joint.

In the second operation, no skin incision is made, and the joint is not drained. By means of a long curved needle in a handle, a silver wire is passed through the joint under the fragments, and is so adjusted that, when the two free ends are twisted together over a pad on the skin, the broken bones are drawn into contact. In this measure an anæsthetic has to be employed; a wire seton is carried through the articulation, the fragments are held together in one line only, and, in irregular fractures, this may not serve to maintain the most perfect position. This plan appears to have met with substantial success in the hands of several surgeons, and it would be premature to criticize it until more data are forthcoming.

The mode of treatment that I would propose, and that, I think, is the most satisfactory, is one that I have now adopted in all cases admitted into my wards at the London hospital during the past twelve months. It consists, simply, in the employment of Malgaigne's hooks in the manner in which they were originally intended to be applied.

Theoretically, it is difficult to conceive a better means of bringing the fragments of a broken patella together. Upon simple mechanical grounds, the hooks can certainly claim an advantage over the single median wire. The points of the hooks are sufficiently wide apart to secure a good and even hold of the bones. The fragments are rigidly held, and are forced together in a horizontal plane. Any yielding on the part of the bones or the instrument can be met, if necessary, by a daily screwing together of the hooks to an extent to compensate for that yielding. A faulty application, in the first instance, can be rectified without difficulty at any subsequent period, an advantage that the wire does not possess. Since a wider hold is obtained of the fragments, Malgaigne's hooks can be used in examples of irregular fracture, and even in certain cases of starred fracture. The hooks, when once applied, require little or no attention, and the whole apparatus is of the simplest character.

Malgaigne's instrument has met with little favor, and the use of it was practically abandoned within a short time of its introduction. Its failure depended simply upon this: The points of the hooks excited suppuration, and, as the upper pair of hooks is probably always passed through the synovial membrane, that suppuration often spread to the joint, and led to the most calamitous results. Apart from this, the inflammation excited about the punctures was an abiding source of discomfort, even if it kept beyond the limits of the joint. These causes of failure have been removed by antiseptic surgery, and with their disappearance must vanish the chief objections to this, the most perfect mechanical appliance for adjusting the fragments of a broken knee-cap.

The other advantages of this mode of treatment may be briefly stated. No anæsthetic is required; the maintenance of the apparatus causes no inconvenience, and, before the hooks are inserted, the fluid in the joint can be conveniently evacuated.

The following is the method that I adopt. The limb is secured upon an ordinary straight back-splint, so as to keep the knee fully extended. The splint has a foot-piece, which prevents any shifting, and is secured to the limb by straps and buckles. Neither in this, nor in any other fracture, do I use plaister for the purpose of securing splints. Straps of fine webbing hold well to the limb, and can be adjusted, tightened, or loosened, as often as required.

The lavish use of plaister in some compound fractures of the lower limb has much to answer for. The knee, after being washed, is well purified by carbolic acid. The position of the patella is carefully marked out in pencil on the skin, and the sites for the points of the hooks indicated. It is important that the hooks should enter the bone at equal distances from the median line. Four punctures are now made with a sharp tenotome at the points at which the hooks are to enter. In each case the instrument should be passed down to the bone. The two upper punctures will open the synovial cavity and through them the fluid in the joint is very easily evacuated. The two lower punctures are without the joint. As soon as all fluid has escaped the hooks are applied. They should be scrupulously clean, and highly polished, and should be kept in carbolic water while the punctures are being made. The two parts of the apparatus must be separated, and each portion applied by itself. It is not until the hooks have acquired a good hold of the bones that the two segments of the instrument should be screwed together. It is better to apply the lower hooks first. When well fixed they must be kept firmly in position by an assistant. There is often difficulty in inserting the upper hooks. Finally, the two segments are screwed together, so that the fragments of the patella are brought into close contact. There is a disposition for the upper end of the apparatus to "ride" a little. This is corrected by passing a tape over the upper hooks and under the knee, and fixing it by a leaden clamp. This tape can be tightened, if necessary, from time to time.

I have always performed this little operation under the carbolic spray. In no case has an anæsthetic been administered, and no patient has complained that the pain of the proceeding was other than could be well borne. After the hooks are secured, the spray is discontinued, and the four punctures are well covered with iodoform. It is advisable to see that the screw of the apparatus is protected from the powder and kept well oiled, so that the hooks may be readily moved if occasion should arise. The limb is now placed upon an inclined plane, to which the splint is lightly secured.

One matter remains. I think it very important that the limb—or, at least, the knee—should be kept always fully exposed to the air. In all cases of wound or ulcer of the lower extremity, and in all cases of compound fracture of that part, I make it a rule that the damaged region be kept open to the air, or, at least, never covered by the bed-clothes. It is notorious that wounds and ulcers of the lower limb do not heal so readily as do like lesions of the arm and forearm. This can hardly be explained by the condition of the circulation in the two parts. Any adverse influence in this direction can, to a great extent, be met by supporting the leg upon an inclined plane, and so giving to the venous circulation the assistance of gravitation. The real cause of the differences in the progress and character of the healing is more probably to be ascribed to the atmosphere in which the lower extremity is kept. The limb is covered by the bed clothes. It lies in a close, confined, and heated atmosphere. That atmosphere, moreover, is apt to become noxious from time to time, when the bed pan is used, and under other circumstances. If there be truth in the principles that underlie antiseptic surgery, then the ill-healing of wounds of the lower extremity can be in part, at least, explained.

Since I have made a practice of keeping all open wounds of this part exposed, I have had reason to be convinced that their healing has been hastened. The non-injured part can be kept warm in the winter by cotton-wool, but I have heard of no complaint under this head.

In the case of the patella, the apparatus is always exposed to view, and the hooks are not liable to be displaced by the bed-clothes or cradle.

With regard to after-consequences, in the cases so far treated there has been no rise of temperature, no complaint of pain, no suppuration about the punctures, no trouble in the joint. I have removed the hooks at the end of six weeks. In one case (in order to test the question of long retention of the hooks) they were maintained in position for eight weeks without any inconvenience. The union, in each instance, appeared to be firm and secure, and the interval between the fragments was not readily made out.

The treatment has not yet been adopted in a sufficiently large number of cases, or extended over a sufficiently long time, to test its ultimate value, but its immediate effects appear to justify a comparatively early notice of the matter.—*British Medical Journal.*

A CASE OF OVARIOTOMY, WITH COMMENTS. By L. S. McMurtry, A. M., M.D., Danville, Ky.

The following case of ovarian cystoma, removed by abdominal section (the most recent of my cases), illustrates so many essential and practical points in advanced abdominal surgery that I venture to make it the subject of special report and comment. On June 21, 1886, I saw Mrs. J. W. D., in consultation with Dr. Geo. Cowan and Dr. W. R. Evans, of this city. The patient, twenty-seven years of age, the mother of two children, the youngest being two years old, had been confined to bed for several weeks. A thorough examination demonstrated an ovarian tumor, most probably a monocyst. The fundus uteri was tilted into Douglas's cul-de-sac, and there was a bloody discharge from the uterine cavity. The stomach rejected food daily. The patient was emaciated, and suffering severely from the effects of pressure. The pulse was 120 per minute. A few weeks previously she had suffered from an attack of acute peritonitis, and at the time of examination there was a slight elevation of temperature, and some tenderness about the abdomen.

The operation was done on June 24th at 11 A.M., the following gentlemen being present and lending valuable assistance: Dr. W. R. Evans, Dr. Geo. Cowan, Dr. D. C. Tucker, Dr. Fayette Dunlap, and one of my pupils, Mr. J. Harrison Moore. Ether was the anæsthetic used. On making the incision in the linea alba the tissues were found fused together on approaching the peritoneum, and firm adhesions between the tumor and abdominal wall were found at this point. So firm were these attachments, and so great had been the persistent distension and pressure, that normal relations were destroyed. In dividing the deeper layers the cyst was opened, and the contents discharged by turning the patient on her side. After thoroughly emptying the cyst, I found that the adhesions to the abdominal wall were of such extent that the incision had entered the centre of attachment, and the peritoneal cavity was thereby protected. The cyst was everted and incised, and stripped from its attachment to the abdominal wall. We were then confronted with extensive adhesions to the omentum, which we succeeded in freeing without severe hemorrhage. The tumor was found springing from the right side, and the pedicle was quite broad. It was transfixed with a double silk ligature and tied upon each side, and then tied as a whole. The cyst was cut away, the ligatures cut short, and the pedicle returned. The left ovary was then examined and found normal. The toilette of the peritoneum was made with scrupulous care, the incision being extended to about three and one-fourth inches in order to complete this important part of the operation. The entire peritoneum exhibited the characteristic appearances of sub-acute peritonitis. The edges of the incision were brought together by silk sutures, including the entire thickness of the abdominal wall, and after carefully counting the sponges and forceps the wound was closed, adhesive strips were applied, a large compress of salicylated cotton was laid in place, and the whole secured by a flannel bandage.

Some of the details of the operation deserve special mention. The patient received a warm sponge-bath the morning of the operation, and the room, bed-linen, etc., were cleansed and renewed. The operator, assistants, and nurse each had a bath, made a complete change of clothing, and just prior to the operation cleansed their hands with soap and nail-brush, following this with immersion in a solution of bichloride of mercury. Just before the operation the abdomen of the patient was sponged with a solution of bichloride of mercury (1 to 2,000). The instruments used were placed in two deep dishes, and covered with a hot five-per-cent. solution of carbolic acid. The sponges are objects of painstaking care. They are of the best quality, and before being used are freed of all particles of chalk, sand, and dirt. For twenty-four hours before the operation they were immersed in a five-per-cent. solution of carbolic acid, and during the operation every soiled sponge was first cleansed in a bucket of warm water, next rinsed in a solution of carbolic acid, and then squeezed out ready for use. If, when soiled, a sponge is immediately placed in the carbolized water, the blood and serum in its meshes will become coagulated, and may be dislodged in the abdominal cavity. After closing the incision, the surface of the abdomen and vicinity were thoroughly cleansed and dried, the dressings applied, a fresh gown put on, and the patient placed in bed and surrounded with bottles of hot water. In this case a suppository, containing one grain of the watery extract of opium, was slipped into the rectum just as the patient was removed from the table. While closing the incision some failure of the pulse was noted, and two hypodermic injections of brandy were administered.

The patient reacted in a few hours and was without pain. She made an unimpeded and perfect recovery without any untoward symptom whatever. No food was given during the first thirty-six hours, small quantities of hot water alone being allowed her. For three days thereafter she was given only milk and animal broths, and afterward bland semi-solid articles were added to her dietary. The catheter was used only once—four hours after the operation—the patient voiding the bladder without aid from that time forward. The highest temperature observed after the operation was 99.5° F., and the pulse gradually descended, reaching 84 per minute on the fifth day. No vomiting or nausea occurred after the operation, and no distension of the abdomen was present. The dressings were not disturbed until the sixth day, when the sutures were removed and the wound was found firmly united. In response to an enema the bowels moved on the seventh day. The patient sat up on the fifteenth day, was dismissed at the end of the third week, and, at the time these notes are recorded, is rapidly regaining her accustomed flesh and energies. I omitted to mention that the tumor was a large monocyst, weighing about sixteen pounds.

One feature of this case deserving special notice is that abdominal section is not contraindicated by peritonitis. This lady suffered an acute attack of peritonitis shortly before the operation, and the presence of sub-acute peritonitis was manifest at the time of the operation, both in the symptoms and in the appearance of the membrane. The removal of the cause was followed by immediate cure. So marked was the relief in this respect that no anodyne or other medicine was necessitated during the entire period of convalescence after the operation. In 1883 Mr. Lawson Tait reported eight cases of chronic peritonitis and two of acute peritonitis cured by laparotomy. In each of these cases complete recovery followed the opening, cleansing, and draining of the abdominal cavity.

A point emphatically illustrated by this case is the value of antiseptic precautions in abdominal surgery. The most frequent causes of death after ovariotomy are septic peritonitis, shock, exhaustion, and hemorrhage. After McDowell had demonstrated the practicability of ovariotomy by thirteen (13) cases with eight (8) recoveries, and after a growing percentage of recoveries in the hands of Atlee, Clay, and Spencer Wells, the operation was accompanied with heavy mortality until Sir Joseph Lister introduced the antiseptic system into surgical practice. While Keith, Tait, and other surgeons have abandoned the use of the spray, they all practice the methods of aseptic surgery; and whatever may be the relative value of Listerism in its details distinct from perfect cleanliness, we are indebted to Lister for the system which alone insures such cleanliness. At any rate, the elimination of septicæmia, the release of ovariotomy from condemnation, and the extension of the domain of abdominal surgery date from the introduction of the antiseptic system into surgical practice.—*The Medical Herald.*

ABSTRACTS.

THE PERINEUM AS A SUPPORTING STRUCTURE (Abstract prepared by Dr. E. S. McKee, for GAILLARD'S MEDICAL JOURNAL).—In a paper read before the Cincinnati Obstetrical Society, by Dr. C. D. Palmer, Professor of Gynæcology, Medical College of Ohio, the author considered this one of the mooted questions of the gynæcology of to-day. Within recent years there has been a growing tendency to discard, at least in a measure, the direct supporting power with which we have been supposing this body possessed. The author recalled to mind three cases of complete laceration of the perineum which had lasted 36, 20, and 10 years. In no case was there any uterine or vaginal displacement. The question might be very pertinently asked: "Why, if the perineum is such a needful support to the vagina and superincumbent viscera, do the vaginal and uterine displacements invariably follow after years of practically total destruction of its integrity? Why do we so frequently have great and serious displacement of those organs, when the perineum proper has suffered little or no injury?" 1. The perineum does not possess that supporting force claimed by some for it. 2. Other factors than its injury lead to displacements. Emmet, Schats and Duncan are prominent among those who have expressed views against the supporting power of the perineum. The uterus obtains no direct support at all from the perineum. This organ is suspended in the centre of the pelvis through the pelvic floor. The perineum lies largely below the pelvic floor. It is injury of some kind, over-distention, undue stretching, laceration in some part of the levatores ani, or pelvic fascia, separation of these muscles in their central connection—injury of some sort to the structure where the anterior rectal joins the posterior vaginal wall, all largely confined to parturition, that we are to look for the real and immediate cause of most cases of uterine displacement.

It would be safe, he thought, to formulate the following propositions:

1. As the perineum is made up of muscular and other tissues, entering into the lower structures of the floor of the pelvis, it follows that lacerations of it do impair, both directly and indirectly, the forces which sustain the vagina, and, through this organ, the bladder and rectum.

2. Perineal lacerations, even complete ones, may occur and not be followed by displacements. Complete splitting of the sphincter ani, leading or not to rectal incontinence, greatly diminishes the chances for vaginal displacement, in that it lessens ordinary intra-abdominal pressure, at rectal evacuation. The absence of any change in the vaginal walls implies that the laceration, however extensive, has involved, to a great extent, only the base of the pyramidal body.

3. Perineal lacerations do not produce uterine dislocations directly. Through vaginal subinvolution, the formation of a rectocele, a cystocele, then traction from the pelvic floor, they may do so indirectly.

4. Uterine displacement, to a great degree, and vaginal displacements to considerable, though less degree, are due to a weakening of the pelvic floor or diaphragm (from which the first-named organ is suspended), by injuries sustained chiefly during parturition, but aggravated by causes operative afterwards.

Good results in perineorraphy, as in plastic and uterine surgery, depend upon the attention to many little details, before, during, or after the operation itself. But, aside from all these, the two chief features of the operation consist of a thorough denudation of a surface proper in size, shape, and location, and the correct adjustment of the sutures. Two very common errors are made; one, to denude the vulvar orifice too far forward, and to take off too much skin; the other, not to extend the vaginal dissection sufficiently upward.

Thorough and complete coaptation of the undenuded borders of the two lateral denuded surfaces can be effected only by the use of vaginal sutures. These may be so placed as to not only bring these borders together, edge to edge, but take up and bring into apposition the ruptured, separated muscular fibres and deep pelvic fascia of the perineum and pelvic floor; to reconstruct a new pyramidal body, in substance to fill the normal interspace between the rectum and vagina, a body not only wedge-like in shape, but wedge-like in action, the true function of this structure. The external sutures are removed in from 7 to 10 days; the vaginal, in from 10 to 14 days. The advantages of this method of placing the sutures (the greater number by far being intra-vaginal, not external) are: less after-swelling and pain, greater ease in self urination, and little or no pocketing of the posterior vaginal wall within the vulva. In his experience a thicker, stronger, perineal structure is built, and a better vaginal support is given than by any other operations. The operation, as described by the author, would, he felt sure, prevent sagging of the posterior vaginal wall and pelvic floor, by reuniting its muscular and fascial connection; thus largely, if not entirely, restoring the functions of these most important structures.

THE TREATMENT OF CHRONIC ULCERS OF THE LOWER LEG (Dr. H. McHatton, in the *Atlanta Medical and Surgical Journal*).—In our constitutional treatment we should endeavor, as near as possible, to place the patient in good hygienic surroundings, at the same time correct any special cachexia and keep the bowels open. If anæmia exists, the different preparations of iron should be given; if scrofulosis, do not spare the cod-liver oil. Arsenic acts well in most cases of the non-specific variety. Dr. Taylor's favorite preparation is Donovan's solution. I use a great deal of arsenious acid, simply because I find that patients as a class are more liable to take pills regularly. If syphilis exists, we should of course use iodide of potash and mercury, the former in large doses, if the ulcer does not show signs of improvement on the ordinary doses. I have never seen any harm result from it, and have given as high as four hundred grains in twenty-four hours, of course lessening the dose as the symptoms improved. I encourage my patients to be out as soon as possible, as in the majority of cases exercise is most beneficial on account of its tonic effect on the system.

Pressure is, to my mind, by far the most important part of the local treatment, and that can only be fully and evenly applied by bandages. Martin's rubber bandage is excellent for a few days in this climate, but it is too heating for continued application. Flannel is the material that gives the best results in my hands, as with it one can get more even pressure than with any other kind of cloth; when economy is quite an item, unbleached cotton does very well. The bandage has to be applied by the surgeon, as the patients are simply unable to use it. Cover the ulcer with absorbent cotton, beginning at the toes, carry the bandage to the knee, no matter where the ulcer is, making as much pressure as the patient can bear, and it will often astonish you to see how much pressure an old œdematous leg can bear with comfort. Bandaging is not as simple as it looks; if the pressure is not evenly distributed from the toes upward, instead of being a comfort and a great therapeutical aid, your bandage will only prove an instrument of torture, unbearable to the patient.

Poultices are a great aid in clearing the ulcer of broken-down tissue and the salves and ointment that we so often find on them; after the first or second day they are not only useless but even contra-indicated. I used to scarify the indurated edges of some ulcers, but they soften so fast under continuous pressure that I now look upon it as a questionable procedure, but sometimes cut off the overhanging edges when there is much undermining. Local applications in the shape of lotions and ointments I use so rarely that I would miss them but little were they banished from the pharmacopœia. Iodoform and camphor with morphia—one to three grains to the ounce—are the two local applications on which I principally rely, and their claims for favor are so evenly balanced that I do not know which is the more useful.

Grafting is so simple, so easy and so gratifying in its results, that it astonishes me to see it so seldom used. My method is as follows: As soon as I get the proper granulations (small and velvet–like, of a pinkish color, secreting laudable pus), I furnish myself with the following instruments: a pair of ciliary forceps (any dressing forceps will do), a pair of scissors and a rubber condom—the latter I cut up in strips about half an inch wide. I take the forceps and pick up as small a piece of skin as I can, snip this off with the scissors as near the forceps as possible, then place it on the granulations. I usually place them in lines, the grafts about a quarter of an inch apart, and the lines about half an inch; over each of those lines place a piece of the rubber, draw until it makes a pretty firm pressure, and fasten the ends to the sound skin with a piece of adhesive plaster or by moistening with chloroform; over all place some absorbent cotton and then the bandage. In seven or eight days you can remove the rubber, and will find that from seventy to ninety per cent. of the grafts have taken, the number depending principally on the condition of the granulations at the time of grafting. In taking your grafts in the manner indicated, you will rarely draw blood, and as there is little or no pain connected with removing them, you will find no trouble in getting volunteers that will give you any reasonable number. I often take them from the patient. In fact, it is much easier to graft an ulcer than to apply a well-fitting bandage to it.

As a rule, I do not strap many cases in this climate, as the adhesive plaster is very apt to excoriate; but if an ulcer comes where the movements of the ankle-joint interfere with its healing, I strap it with narrow strips of Mead's adhesive plaster in such a manner as to partially anchylose the joint.

Occasionally, when I have a case of very flabby and indolent granulations, I brush it over once or twice with the solid stick of nitrate of silver. After the first few days of treatment, or as soon as laudable pus appears, I refrain from interfering with the ulcer, excepting to wipe off an excess of pus at the time of dressing. Always leave the dressing on as long as possible.

THE DIETARY IN ACUTE DISEASES (Dr. J. Milner Fothergill, in the *Journal of Reconstructives*).—In pyrexial states it is very doubtful if the digestion of albuminoids is desirable, even if practically attainable. During pyrexial states there is acute and active hystolysis. That is well known. Its nitrogenized tissues melt down under a sustained high temperature, by a process of acute fatty degeneration. When convalescence sets in, then tissue repair is active, and the keen appreciation and capable digestion provide liberal supplies of albuminoid matter for the swift histogenesis then taking place. But while the hystolytic process is afoot tissue repair is impossible. In his opening address to the Medical Society of London (session 1885-6), Dr. Ord, the President, made reference to some experiments he had performed which went to show that the arrest of the normal histogenetic processes in pyrexial states is one factor in the increased heat production. To attempt, then, to supply albuminoids to the body in conditions of high temperature is to achieve no good end, and only to increase the risks and dangers which belong to a state of blood highly charged with excrementitious matter of nitrogenized character—in other words, the typhoid condition, or uræmia.

When there is little or no pyrexia present, then the caseine of milk may be both digested and be useful. Beef tea containing some of the meat fibrine, too, is useful. Part, if not all of the meat fibre ought to be beaten to a paste or a pulp, and then returned to the infusion, by which means a distinct food-value is given to the beef tea. In acute gastric disturbance, in conditions of debility, as after hemorrhage, such forms of albuminoids are excellent, and supply the tissue needs until more solid food can be taken. But in acute pyrexial states only fluid foods can be taken. The thirst causes a demand for fluids on the one hand, while fluid forms of food are best tolerated by the stomach. What should these fluid foods consist of? In the first place come milk (with its soluble milk sugar), which may be given with seltzer or other water, or as whey, or with water; in the latter case it is well to add some soluble carbo-hydrate, as any food consisting of predigested starch. Also a malt extract prepared as follows: Reduce to consistency by the addition of a little water, until the fluidity is such that it will readily mix with some aerated water. This forms a most excellent food, containing soluble carbo-hydrates of the most digestible character.

Cereal matter which has been well-baked or malted is *par excellence* the food for pyrexial states. A certain conversion of the insoluble starch into soluble matters as dextrine (and maltose in malted preparations) has thus been brought about. Baked and malted preparations are now on the market in any quantity. Where prepared food contains malt it possesses diastase which can further carry on the starch conversion into or towards maltose in the presence of warmth and moisture. Such predigested and self-digestible food of farinaceous character can be used in various ways. It can be added to milk, and increases its nutritive value. It is invaluable as an addition to beef tea, chicken broth, and mutton broth, giving the beverage a distinct food value. It can be added to any soup, which is best prepared from fish. It can be used with home-made lemonade, or apple water, lending to them a nutritive value. Further, such soluble carbo-hydrates (prepared according to the directions supplied with each "Food") form a fluid vehicle in which wine or spirits can be given pleasantly, when some stimulant is indicated. Preparations of predigested starch are of unspeakable value in acute pyrexial states, when the natural digestive powers are greatly impaired.

TUBAL PREGNANCY SUCCESSFULLY TREATED BY THE GALVANIC CURRENT; CO-EXISTENT NORMAL PREGNANCY.—Dr. C. C. Stockard, M.D., Columbus, Miss., reports the following rare and interesting case in the *Nashville Journal of Medicine and Surgery*. V. H., colored, æt. about twenty-four years, was married in December, 1884. In March, 1885, I found to the right of the uterus a tumor about the size of an orange, rather soft and somewhat movable. The uterus was enlarged, the areola around the nipple was decidedly darker than natural, a few drops of watery fluid could be squeezed from the breasts, and as the tumor had never been noticed till recently, and seemed to be growing quite rapidly, I diagnosed extra-uterine pregnancy. I wanted to try the treatment by the galvanic current, which had been well spoken of by high authorities, and asked my confrère, Dr. Vaughn, to see the case with me. He concurred with me in the diagnosis and treatment. About the first of April I began with the electrical treatment, using from twelve to twenty cells of a galvanic battery; a vaginal electrode was passed into the vagina and pressed against the tumor while the other was placed over it on the outside. The current was kept up about five minutes, and applications were made every other day till three or four were made. They caused considerable pain and some uterine contractions. From this time the tumor seemed to cease growing, and pretty soon a diminution in size was perceptible, but at the same time it became evident that there was a fœtus *in utero.* * * * At 3:30 A.M., October 30, she had a convulsion, with foaming at the mouth, gritting of the teeth, etc. As soon as I reached her, I gave her hypodermically four drops of tr. verat. vir., and as another convulsion seemed to be approaching, I let her inhale chloroform. As soon as it could be procured, she began taking a mixture of chloral hydrate and bromide of potassium. The os dilated quite satisfactorily, and though there was a tendency to convulsions all day, she had no more, and at 4:30 P.M. I delivered her with forceps of a healthy, well developed boy.

Immediately after the termination of labor the tumor descended to just behind Poupart's ligament, so that it went upward as pregnancy advanced and descended as the uterus went down. I examined this patient only a few days ago, seven and a half months after delivery, and not a trace of the tumor can be found; so that, taking into consideration its rapid development and disappearance, with its ascent during pregnancy and descent after delivery, I still think that my original diagnosis was correct, and that the life of the extra-uterine fœtus was destroyed by the galvanic current. At the same time it is interesting to note that the intra-uterine pregnancy went on to a fortunate termination.

ELEVATED TEMPERATURE IN SOME CASES OF PERNICIOUS (CONGESTIVE) MALARIAL FEVERS.—Prof. Joseph Jones, of New Orleans, says (*Virginia Med. Monthly*): It is worthy of note that many of the cases of congestive or pernicious malarial fever, and especially of the *comatose* variety, frequently manifest an elevated temperature. After relating five fatal cases of malarial fever (in most of which autopsies were held), to illustrate this proposition, he arrives at the following conclusions:

1st. Pernicious paroxysms frequently occur in patients who are suffering from the prolonged action of the malarial poison, which has already induced profound lesions of the blood, brain, liver, and spleen.

2d. Pernicious malarial fever is frequently characterized by high temperature, which may continue during the most profound coma, even up to the moment of death.

3d. The phenomena of pernicious (congestive) malarial fever indicate the action of a prompt poison or morbific ferment.

A CASE OF SPINA BIFIDA.—Dr. H. C. Ghent, M.D., of Belton, Texas, (*Courier Record of Medicine*), reports the successful treatment of a case of spina bifida in a young infant, as follows:

On my second visit, which was on the 10th of October, 1885, upon closer examination, I found a complete and rather broad separation between the parietal bones, and also through the centre of the frontal and occipital, antero-posteriorly. I concluded to aspirate, and accordingly drew off about one ounce of a deep straw-colored fluid, and immediately injected about ʒj of the following mixture:

℞.	Iodine,	grs. x.
	Iodide of Potassium,	grs. xxx.
	Glycerine,	ʒj.

covering the puncture with court plaster and applying a cotton compress and elastic bandage, according to the method of Dr. Martin. I did not draw off more than what I supposed to be one-half of the fluid. The fluid upon examination was found to be neutral in reaction, but very heavily charged with albumen.

October 22, found the following measurements: greater diameter 2¾ inches; smaller, 2½ inches. The tumor was much flatter. There has been slight constitutional disturbance, manifested by rise of temperature.

There has been a decided but gradual improvement up to the present time, that is the tumor is still dimishing in size, and the surface, though corrugated, is covered by skin more like the healthy surrounding surface. The health of the child is perfect, and he is growing rapidly. The deficiency in the bones of the cranium is gradually disappearing, but the head is evidently out of all proportion to the rest of the physical framework.

THE PHYSIOLOGY OF DREAMING.—Dr. T. O. Summers offers the following theory in the *Florida Medical and Surgical Journal:*

1. The functional activity of the brain cells is sustained by a quantity of blood in excess of that necessary to support its structural integrity.

2. When the general organism calls for this extra blood to sustain its wasted structure, the cerebral space is occupied by the inert cerebro-spinal fluid.

3. Any extraneous influence which, without awakening the *sensorium commune*, produces an oscillation of blood to the brain, will develop an incoherent functional activity in any individual cell that may be touched, and the character of expression will be determined by the relation which the cell sustains to general cerebration, but without co-ordination of reason.

In support of this, he argues as follows: What is the condition of the brain when the *functional* blood, as I shall term it, leaves it to be distributed through the organism? *When the functional blood leaves the brain, the cerebro-spinal fluid occupies the same amount of space in the arachnoid covering of the brain which the blood occupied in the pia mater, or vascular membrane of the brain.* Now, the serous fluid has no stimulating influence over the brain cells. It is physiologically inert, and during sleep it bathes the cerebral surface with a soft and gentle vibratory movement as it oscillates with the blood pressure from below. Let us now suppose a person in profound slumber, all the blood except what is necessary for the support of structural integrity passed out of the brain and circulating through the organism at large. The cerebro-spinal fluid has run up in the folds of the arachnoid to fill the cranium void. The brain is quiet. Its functional activity is at rest. The reason is shadowed. Thought is suspended. Sleep is deep, and there is no dreaming. Now, let some extraneous influence awake some sensori-motor arc of action—it may be the whistle of the wind, or the whisper of a word. Immediately the blood flows to the brain in prompt response. It may not be sufficient to stir the functional activity of the *sensorium commune*, but it touches with awakening influence individual cells, and brings into functional activity each one that feels its impact, and the response is in exact accordance with the separate expression of the cell, although without the co-ordinating influence which correlates it with the general function of the brain when thoroughly awake. Seldom is there *perfect sleep*, for there is nearly always a delicate oscillation between the cerebro-spinal fluid and the blood, and whenever the latter touches the cell there is an immediate response of function. If it be in the field of memory, incidents of the past long recorded will flash into thought again and fill the vacant halls of reason. The action of the blood upon the brain is like the striking of notes upon a harp. Each string is separate, and gives forth a different note. Under the hand of a master it gives forth harmony, but swept by undeft fingers the sound is jargon, though each note is perfect. Reason is the master musician of the brain, and as the blood strikes each cell its molecular vibration is co-ordinated into cerebral harmony, and thought is orderly, consecutive, and logical. But when the functional supply is shut off from the *sensorium commune*, each cell as it is touched by the oscillating waves of blood develops an *ideo-motor* arc of action which is non-coördinate and chaotic, and the creatures of thought are strange, fantastic, and weird.

MICROSCOPY AND PATHOLOGY.

THE ETIOLOGY OF MALARIAL FEVER.

To further prove that malarial fever is without doubt the result of fermentative action of palmelic spores, or in other words, their multiplication in the system, it could be shown in detail, did time and space permit, that all articles which have arrested the fever are recognized anti-ferments, possessing in various degrees this property. It is an admitted fact that in all cases not of long standing quinine will arrest the fever; but quinine will also arrest fermentation, and that most effectively. Professor Binz, of Bonn, has tested this property of quinine in a great many instances and concludes in this language: "That quinine has the power of arresting the process of putrefaction and fermentation in a high degree, and that it is active poison for all low organisms, animal and vegetable." Quinine, then, cures malarial fever by arresting the fermentative action of the spores, and causing, perhaps, partial destruction of the same, thereby enabling the system through its eliminative functions to remove the cause, when health returns, sooner or later, depending on the amount of damage sustained by the cause. Is not this plain common sense, philosophical reasoning from cause to effect?

On the same principle, quinine acts as a prophylactic, and preserves the body, when administered, from harm in a malarious district. Again, is not arsenic one of the best antiperiodics? Yet, is not it, also, a prime antiseptic or antiferment? What say Emi and other chemists? "That under the microscope the rapid stoppage of the vitality of the yeast plant is observed when arsenic is added to the fermenting liquor." The sulphites and hyposulphites of soda, potassa, lime, and magnesia, cure malarial fever. Professor Polli, of Milan, has used them for that purpose for many years. But, are not the sulphites, acting through the sulphurous acid in them, the very best antiseptics or antiferments known? So say Polli, Robinson, and a host of other investigators. In the language of Professor Polli, the "sulphites possess, in an extreme degree, the power of arresting all known organic fermentations and putrefactive metamorphoses of animal and vegetable solids and liquids." The compound solution of iodine has proven to be an excellent antiperiodic, relieving many cases where quinine had failed. But iodine, also, is found to be one of the very best anti-ferments or disinfectants; so says the distinguished Dr. Richardson of London. Carbolic acid, too, has been used with much success in the treatment of malarial fever, so reports Dr. Treulich and others. The destructive action of carbolic acid in fermentative and putrefactive processes is too well known to require more than a mention.

Chloride of sodium cures many cases. Its antiseptic properties are familiar to all; it is destructive, too, to lower orders of life, and doubtless performs no insignificant part in preserving the body continually from disease. The iron preparations are good antiperiodics; but are not some of them disinfectants in a high degree? Picric acid and its salts arrest and cure intermittent fever; but they, too, are anti-ferments. Nitric acid, cayenne pepper, pepperine, alcohol, salicin, salicylic acid, have all made some good cures, but are not they too, like all the rest, antiseptic and destructive to lower organizations? And it may be safely affirmed that no curative agent in malarial fever has been or ever will be found that does not possess antiseptic properties to a greater or less degree; for it is through this property alone that the cause can be reached.

Anti-ferments, antiseptics and disinfectants, are terms used to convey the same thought—destruction and protection from infusorial and cryptogamic life.

An effort has been made at some length to prove to a demonstration three propositions: First, that the cause of malarial fever is, in truth, the spores or bacteria of palmela cryptogam: Second, that they act as ferments; which is shown by the blood in disease, by analogy, and by the known anti-fermentative properties of all medicines that afford relief: Third, that the disease can be arrested and restoration to health effected through none other than antiseptic remedies.

And the result has been to deepen and strengthen the conviction of the truth of these propositions.

It is very well known, however, that some investigators deny, and others even ridicule, the etiological factor of palmelic spores in malarial fever; while at the same time they take up with and advocate the more recent sensational claim of Laveran, Marchiafava, Celli, and Richard, although in truth it is not so well founded.

But, even should the palmelic theory be finally not sustained, all investigations go to show that the cause must be something similar, produced under like circumstances, acting in the same way, and consequently would not set at naught, invalidate, nor break the force of the second and third propositions. *From the Report of the Special Committee on Collective Investigation of Disease, by* B. F. HART, M.D., *Chairman, presented to the Missouri State Medical Association, May* 3, 1886, *and published in the St. Louis Courier of Medicine, for July*, 1886.

SANITARY.

FLUSHING DRAINS WITH SEA-WATER.—Within the last decade Yarmouth has succeeded in reducing its annual death-rate from 23.02 to 19.03 per 1,000, and its zymotic death-rate from 4.6 to 2.28. This is a great success, considering the difficulties presented to the authority by the natural disadvantages of the situation, and the fact that Yarmouth is a commercial town and port as well as a health resort. The difficulties of the site, as pointed out by our sanitary commissioner, who visited the town in 1875, consisted chiefly in the perfectly flat nature of the district, rendering it difficult to get sufficient fall for the drainage, and impossible to discharge the sewage at points above sea level. These two factors led at that time to considerable damming back of the sewage matter, and at times to tremendous pressure of sewer air within the sewers and house-drains. The earliest action of the sanitary authority was to relieve as far as possible this dangerous condition of things, first by the free erection of ventilating shafts in those parts of the town in which the pressure of sewer air was most felt, and then by endeavoring to prevent the deposition of sewage within the drains themselves by means of constant and systematic flushing. The cost of this flushing with fresh water is of course considerable, and we are pleased to find that a scheme has been suggested, and is likely to be carried out, whereby the sewers will be flushed by means of sea-water to the amount of 25,000,000 gallons annually. Automatic flushing tanks containing 1,500 gallons will be placed along the main thoroughfares and daily discharged into the sewers, whilst provision is also made for watering the streets in the central parts of the town by means of hose, as in Paris and Brussels. It is estimated that about 160,000 gallons of water will thus be passed through the sewers each day during the height of the season. When this scheme is thoroughly carried out we shall no doubt find the death-rate decline still further. The sanitary authorities are deserving of every credit for what they have already done, and in inaugurating a system of drain flushing and street watering with sea-water they are setting an example to other seaside resorts.—*Lancet.*

HOW TO COOL A CELLAR.—A great mistake is sometimes made in ventilating cellars and milk houses. The object of ventilation is to keep the cellars cool and dry, but this object often fails of being accomplished by a common mistake, and instead the cellar is made both warm and damp. A cool place should never be ventilated unless the air admitted is cooler than the air within, or is at least as cool as that, or a very little warmer. The warmer the air, the more moisture it holds in suspension. Necessarily, the cooler the air the more this moisture is condensed and precipitated. When a cool cellar is aired on a warm day, the entering air being in motion appears cool; but as it fills the cellar, the cooler air with which it becomes mixed chills it, the moisture is condensed, and dew is deposited on the cold walls, and may often be seen running down them in streams. Then the cellar is damp, and soon becomes mouldy. To avoid this the windows should only be opened at night and late—the last thing before retiring. There is no need to fear that the night air is unhealthful; it is as pure as the air of midday, and is really drier. The cool air enters the apartment during the night, and circulates through it. The windows should be closed before sunrise in the morning, and kept closed and shaded through the day. If the air of the cellar is damp, it may be thoroughly dried by placing in it a peck of fresh lime in an open box. A peck of lime will absorb about seven pounds, or more than three quarts of water, and in this way a cellar or milk room may soon be dried, even in the hottest weather.—*Scientific American.*

BIOGRAPHY.

FRANK HASTINGS HAMILTON, M.D., LL.D.

Death has indeed been making sad havoc among the most eminent medical men of New York during the last few months, and the latest victim of the insatiable conqueror is the world-renowned surgeon, Frank H. Hamilton. Dr. Hamilton, who had not been in good health for the last two years, passed peacefully away, in the full possession of his mental powers, at his residence in this city on the 11th of August. The funeral services, which were held on the 14th, were attended by a large number of physicians, and the interment was in the beautiful Sleepy Hollow Cemetery at Tarrytown-on-the-Hudson.

Dr. Hamilton was born in the little town of Wilmington, Vt., on Sept. 10, 1813. He received the degree of B.A., from Union College, and that of M.D. from the Medical Department of the University of Pennsylvania, and he first began to practice at Auburn, N. Y. In a very short time he obtained a widespread reputation as an able young surgeon, and five years after he left college he was appointed Professor of Surgery in the Fairfield (N. Y.) Medical School. This place he did not like, and, embracing an opportunity offered a year later, he accepted a similar Professorship at the Geneva (N. Y.)Medical College. Here he remained for nearly four years, when he went to Buffalo. It was in Buffalo that Dr. Hamilton met the late Dr. Austin Flint, and the two became great friends. In 1846 they, associated with Dr. James Platt White, added to the University of Buffalo a medical department, which rapidly became one of the features of the institution. Dr. Hamilton became its Professor of Surgery. For 14 years, from 1846 to 1860, he retained his position in the university, and then moved to Brooklyn. Hardly had he got fairly settled in his new home and become the first Professor of Surgery that the Long Island Hospital ever had, when he entered the army as Surgeon, and early in 1861 he was attached to the Thirty-first New York Regiment. He was successively promoted to the grade of Brigade Surgeon, Corps Surgeon under Gen Keyes, and Medical Inspector of the United States Army, between the date of his entrance into the service and 1863. Dr. Hamilton was one of the founders of Bellevue Hospital Medical College, and held its chair of Surgery from May, 1868, until March, 1875, when he resigned. He had been living and practicing in this city since 1864.

Although constantly engaged in the most active practice, which included a vast amount of consulting work, Dr. Hamilton was always an industrious writer, and made for himself an enduring fame in surgical literature. His first publication was a "Treatise on Strabismus," issued in 1844.

His "Treatise on Fractures and Dislocations," published first in 1860, is regarded as the best book on that subject in existence. It has now run through seven editions and has been translated into French and German. Among his other widely known works are "Prognosis in Fractures," "Treatise on Military Surgery," "Treatise on the Principles and Practice of Surgery," and "New Views on Provisional Callus." The book which Dr. Hamilton regarded with the greatest pride was his "Treatise on the Principles and Practice of Surgery," which was published in 1872. The third edition was issued a few weeks ago; and after he had finished its preparation he remarked one day to his daughter, "Well, now my life is completed." He also wrote a large number of valuable monographs on various subjects, and it is a matter of no little pride to the editor that the last two papers which he ever wrote, viz.: his recent article on Cremation and his eulogy of Professor Flint, were given by their distinguished author to GAILLARD'S MEDICAL JOURNAL for publication.

For many years Dr. Hamilton stood in the front rank of American surgeons, and, on account of his eminence, especially in military surgery, after President Garfield was shot, in 1881, Mrs. Garfield insisted upon sending for him. He was telegraphed for, and a special train being provided him, he went directly to the President's bedside. As one would naturally expect from his professional skill, he was a man of great mechanical ingenuity, and he is said to have been the inventor of no less than twenty-seven surgical instruments, most of which are now in common use.

Among his fellow practitioners Dr. Hamilton was always held in the highest regard and they availed themselves of every opportunity to show their respect for his abilities. In 1855 he was chosen President of the New York State Medical Society; in 1857 he was president of the Erie County Medical Society; in 1866 of the New York Pathological Society; in 1875 and 1876 of the New York Medico-Legal Society; in 1878 of the American Academy of Medicine; in 1878 and 1885 of the New York Society of Medical Jurisprudence and State Medicine; and from 1880 to 1884 he was Vice-president of the New York Academy of Medicine. In 1869 the trustees of Union College conferred upon him the honorary degree of Doctor of Laws.

Dr. Hamilton was twice married—to Mary Virginia McMurran, of Virginia, in 1834, and to Mary Hart, of Oswego, in 1840. His last wife died about a year ago. He leaves two children—Col. T. B. Hamilton and Mrs. Daniel Davis.

At a meeting held August 13, 1886, of members and officers of the Society of Medical Jurisprudence and State Medicine, of which Dr. Hamilton was President at the time of his death, it was

Resolved, That in the death of Dr. Frank Hastings Hamilton, its President, the Society has lost one of its truest friends, wisest counsellors, and most distinguished members; that we tender to his bereaved family and surviving friends assurances of our profound grief and sincere condolence in their great affliction; that his loss falls with especial severity upon this Society, over which he has so ably and impartially presided, to which he has contributed so much that is valuable, and from whom it had hoped to receive so much in the future; a man whose life has been characterized by all the social and domestic refinements; whose public and professional career has now the highest applause not only wherever the English language is spoken, but in foreign lands as well; whose devotion to surgical science and the relief of human suffering has wrought for himself tablets of imperishable fame, achieving for him the distinction of being one of the most eminent surgeons of his age, and at the same time conferring lasting honor upon his country.

It was also unanimously resolved to hold a memorial meeting in honor of Dr. Hamilton, at the hall of the Academy of Medicine, 12 West Thirty-first Street, on September 9, 1886, at 8 P. M.

WALTER MOXON, M. D. (LONDON), F. R. C. P.

DR. MOXON, whose sudden death, occurred July 21st, was still in the prime of life. He was born on June 27, 1836, and had, therefore, but just completed his fiftieth year. His father held various posts in the Civil Service, and at the time when Walter Moxon, who was one of nine children, was born, the family resided at Midleton, Co., Cork. His mother was a native of Sussex. His father subsequently received an appointment in London, and eventually became chief clerk of one of the departments of the Inland Revenue at Somerset House.

Walter Moxon's education was suspended at an early age, in order that he might be put to business in the city of London. The hum-drum existence of a merchant's office was, however, little suited to one of his impetuous temperament, and he very soon brought his commercial career to an abrupt termination. Having conceived the desire to enter the medical profession, he devoted himself with so much assiduity to the necessary preliminary studies that he was able to pass the matriculation examination of the University of London without any other assistance than his own industry. He entered at Guy's Hospital in 1854, and very quickly attracted universal attention by the singular brilliancy of his parts. At the First M. B. Examination of the University of London in 1857, he distinguished himself by taking many prizes; and, in the following year, he was appointed one of the assistant-demonstrators of anatomy. Among his contemporaries at Guy's Hospital was Mr. Arthur Durham, and the friendly rivalry between these two distinguished students was one of the topics of the day at Guy's.

In 1859 Dr. Moxon graduated M.B., taking honors in every subject. He became M. D. in 1864, the same year as he was appointed Assistant Physician to Guy's Hospital. His first important teaching appointment, however, was that of Demonstrator of Anatomy in the Medical school of Guy's Hospital. His knowledge of the human body was most exact and complete. No relation of structures, however minute; no dissection, however unusual, but seemed familiar to him. He was always committing himself to precise and complicated statements, and was never caught tripping. "He knew anatomy," writes a friend and colleague, "as he afterwards, in an introductory lecture, recommended others to learn it—as a cabman knows his way about London. It was by concentration of attention and by continual repetition, that he had become, when I worked under him, the most perfect topographical anatomist I have known."

After five years thus spent in the dissecting-room, he succeeded Dr. Wilks in the pathological department. Here he was as minute, as exact, as accurate as before. His demonstrations were deliberate, elaborate, and emphatic. He made beautiful drawings of microscopic sections, and finished portraits in water-color of diseased organs. A few of the former appeared in his *Pathological Anatomy*, but the latter must be seen in the *post mortem* theatre of Guy's Hospital, where they almost rival Towne's famous models in the Museum. The result of his pathological work was seen in the second edition of Dr. Wilks's *Lectures*, to which he contributed a considerable part; and also in numerous communications to the Pathological Society. Conspicuous among the contents of its *Transactions*, which represent, perhaps the highest standard of uniform excellence which our profession can boast, were Moxon's papers—never slight or trivial in substance, and always brought up to the requirements of scientific accuracy.

After seven years spent in teaching pathology, he was appointed to the joint lectureship on medicine, a post which he held up to the time of his death. He bestowed great pains on his lectures, as he did on all his work, and became both brilliant and popular. His plan was to concentrate his attention and that of his hearers upon one subject, which he treated as fully, deeply and elaborately as his thorough knowledge and wide experience enabled him. Such a teacher gives less information of the kind readily reproduced at examinations than may be gained from the text-books or from the lectures of less highly gifted men; but he rivited attention, he awakened interest, and he stimulated thought. As a clinical physician, the same characteristics brought Dr. Moxon high reputation, while his quaint illustrations and ready epigrams fixed his precepts firmly in the memory. His most important published papers were in the *Guy's Hospital Reports*, and among them we may particularly refer to those on Chronic Arteritis, Atheroma, and Aneurism, and to that on Insular Sclerosis. His Lumleian Lectures before the College of Physicians were brilliant examples of his accurate and minute observation, his ingenuity, and his literary skill. He became a Fellow of the Royal College of Physicians in 1868, and of late years he took an active part in its affairs, and spoke in the comitia seldom but effectively. Rarely has such an impression been made as when he brought forward the case of two general practitioners who had been most unjustly subjected to prosecution and reproach. His speech entirely secured his object, and left those who heard it convinced not only of his ability as a speaker, but of his public spirit and generous sympathy with his profession.

His consulting practice had, for several years, been large and increasing. Apart from his skill and insight, he was valued for his scrupulous observance of what is called professional etiquette, but is really nothing more than the precepts of honor liberally interpreted.

Dr. Moxon's domestic circumstances were most happy. He married early a lady of some fortune, and had an only daughter. He resided first at Hornsey, and then at Highgate, retaining consulting rooms at Finsbury Circus. He had latterly felt the fatigue of this travelling backwards and forwards, and, indeed, had not been in robust health for years; he had had several attacks of severe hæmoptysis, and frequently passed blood with the urine. It is probable that he took a more serious view of the case than others would have done, and looked forward to an incapacitating illness with the most intense dread. He had suffered severely on several occasions from headache, and had also endured much suffering by reason of sleeplessness, for which he had resorted to the use of chloral. On the day of his death, he had one of these attacks; and, in addition, had persistent vomiting. and some hemiplegic weakness. It would seem that, while in this condition, he took a dose of hydrocyanic acid, careless whether the result might not, in his then state of health, prove actually fatal.

The funeral took place at Highgate Cemetery on Saturday, July 24th; there was a very large concourse of mourners, including Sir William Jenner, President of the College of Physicians, the majority of Dr. Moxon's old colleagues, and many students.

Personally, Dr. Moxon was warm-hearted, somewhat impulsive, friendly, hospitable, and generous. He delighted in argument, and was always prepared to maintain a thesis, and above all, a paradox, with logic, which few could answer, and wit which fewer could emulate. He rarely failed to conquer, but perhaps, almost as rarely to convince. He was eager to persuade, and hard to be persuaded. But his wit was such as "loves to play, not wound," and an antagonist left him with increased esteem.

His goodness to those in whom he saw the qualities he valued, and to all who were in want of help, was remarkable. On the day of his death he had staying in his house one of his clinical clerks and the lady in charge of his ward, both of them convalescent from illness contracted in the hospital. By all who knew him he was regarded with admiration and esteem; by those admitted to intimacy, with veneration and with love.

It is needless for us to attempt further to portray the character of this remarkable man, for we are enabled to give this striking memorial from the pen of Dr. Samuel Wilks, who had known him since the brilliant days of his student-career:

"It is impossible in a few lines to portray the character of so remarkable a man as the late Dr. Moxon. His was no ordinary mind, and I feel sure there is not anyone unfamiliar with his conversation and writings who could form any conception of its wonderful acuteness and depth. When I say his was no ordinary mind, I intend rather to convey the idea that Moxon could in no way be summarized as an eminent doctor or distinguished scientist. He was, then, totally different from his late colleague, Fagge. The latter had a most orderly mind, of great acuteness, and threw aside everything he could not clearly bring to reasonable proof. Of such composition are most of our best scientific men—men whose methods of procedure are clear to all; and, if one judge by results, in the complete overthrowing of old modes of thought, must be regarded as possessing the best minds of the age. Moxon was not one of these; and, in one sense, might be called superior, for he belonged to a class of persons whose mental processes are beyond analysis; he was essentially a genius; he could elaborate doctrines out of a brain which was always dealing with the most subtle problems. Just as the poet is born and not made, so it is with every genius. Moxon was thoroughly outside all that was commonplace, and touched as he was with a spark of the celestial fire, he could pour out his thoughts with a brilliancy which often amazed his hearers.

"Even over his patients he discoursed in a manner entirely his own, and it is to be hoped that there are many of his old pupils who have preserved some of his highly acute and philosophic sayings. His intellect was of that high order that whatever he touched he needs must have advanced, and, therefore, all his contributions to medicine were of the most valuable kind. It is possible that he might have excelled still more at the Bar, or in literature become another Carlyle.

"I have always given him credit for the ready explanation of aphasia being associated with lesions of one side of the brain, from the fact of the left hemisphere being used for the more refined movements of the hand.

"His mode of expression, humor, and wonderful fancy made his writings read sometimes more like a romance. I do not consider that he had the ordinary scientific mind; it was too slow for him, and, moreover, he was not in accord with the doctrines of the leaders of science. His side-hits at these men are seen through all his writings. He was truly a metaphysician, and, therefore, in many ways of looking at things, resembled his former colleague, Hinton. He would much rather spend an evening in discussing the subtlest question in mental philosophy, than talk about a case. Having succeeded me in the chair of pathology, he soon acquired a large amount of knowledge on this subject, and then wished to edit my *Lectures on Morbid Anatomy*. I can thoroughly appreciate the perplexity of a reviewer of this work on its first appearance, when he lamented that Moxon had not brought out a book of his own, and left me to re-edit my own lectures; 'for,' said he, 'Wilks and Moxon formed an adulterous connection.'

"There are many passages in this book which show the brilliancy and play of fancy which he could throw over the most commonplace fact; for example, under the paragraph 'Epulis.' 'This is an ancient name for tumors of the gums; but tumors are of many kinds, hence a difficulty in settling which tumors of the gums are to be called 'epulis.' Virchow gives the term a typographical significance, and calls all tumors of the gums 'epulis,' while the College of Physicians in its nomenclature goes curiously to the other extreme, and, after placing all possible tumors of the gums under No. 385, makes epulis 386, but gives it no import, so that it stands like a venerable title without estates.'

"I remember standing talking to him one day, when a colleague came up and complimented him on the largeness of his class, when Moxon replied, 'I don't suppose I give the men better bread and meat than you did, but I put a little mustard on the sandwich.' This condiment he no doubt did use largely.

"His lectures at the College may be remembered from the manner in which he demolished, by his subtle arguments, most of the conventional doctrines about brain functions. It must, however, be admitted that he did not put in their place any established facts demonstrably worked out in the laboratory or wards, but rather suggested some new theories of his own. It is not surprising that there have been those who did not appreciate Moxon; but this, as I have told them, was their own fault; they had never attuned the fibres of their brain in unison with his, and, consequently, had never felt them vibrate when his mind was at work. They had nothing in common with his 'all-subtilizing intellect,' to adopt the Poet Laureate's expression about his friend.

"As may be supposed, with such a mind and temperament, Moxon was generous, ardent, and often impulsive. His sympathies with the poor, the suffering, and the injured, were great; and he was always most indignant at wrong-doing. The case of Bowers and Keates, which he warmly espoused, is fresh in the memory of all; and his late advocacy of the claims of students to degrees was not prompted by any selfish interests, but because he saw they were working at an unfair disadvantage. His personal goodness and beneficence knew no bounds, as many who have privately received his bounty can testify. Such men as he die early, for Moxon did not possess the attributes which a French physiologist declared were so advantageous to a long life—a good digestion and a bad heart.

"This hasty sketch of my late friend, whom I so much loved, is a mere outline of his character as he now appears before me. It is to be hoped that more time and leisure may enable some one of his numerous friends to write fully the life of one who was no ordinary man. Cut off in his prime, there is no foretelling what great things Moxon might have done."—*British Medical Journal.*

J. L. COCHRAN, M.D.

Dr. J. L. Cochran, a well known physician of Brazona, Texas, after an illness of seven months, died June 9, 1886, of abscess of the liver. His last professional visit was one of charity.

Dr. Cochran was born in Alabama. He received his collegiate education at the University of Alabama, and at Kenyon College, Ohio; after which he was graduated at Transylvania Medical College, at Lexington, Kentucky, where he was a private pupil of Dr. Benjamin Dudley. He practiced medicine successfully at Natchez, Mississippi, San Francisco, California and Rio Janeiro, S. A. Since 1854 he has lived in Texas, where he had a fine reputation as a skillful surgeon and excellent physician. Dr. Cochran was 65 years old, but was a man of fine figure and youthful appearance.

He left a wife and seven children. As a sincere friend, a devoted husband and father, and a faithful physician, his loss here will be long lamented.

BRAZONA.

SAMUEL B. FLOWERS, M. D.

Dr. Samuel B. Flowers was born the 31st of October, 1835, and died the 6th of June, 1886, aged 50 years, 7 months, and 6 days. He obtained his medical education at the University of Pennsylvania, from which institution he received his diploma in the spring of 1857. The first three years of his medical life were spent in Camden, Ark. In his adopted State he had in this short period established himself well, and everything seemed bright and prosperous to him.

At the beginning of the war he laid aside all personal agrandizements and home pleasures, and joined the medical corps of the Confederate Army. In this position he rendered efficient service, remaining there till the last. At the close of the war he returned to his native State and to the home of his boyhood, and began anew the practice of his profession. He soon established himself, and gained the full confidence of the people.

He was a physician of rare attainments, endowed with a fine mind, quick perception, good memory and sound judgment. He was a close student, keeping well abreast with the numerous changes and rapid advancements made in our profession. With these embodiments of success, need I add that he was a very successful physician? His energy was unbounded, and he was at all times ready and willing to go to administer to the sick and suffering. His will-power was indomitable and his hope unmeasurable. With these strong exponents of character, he was the surprise and wonder of his daily visitors during his last illness. He suggested and insisted on the course of his treatment all the way through. His hope of getting well kept him buoyant and alive for days and days. After the hopes of his many friends and visiting medical brethren had withered and gone, his confidence still kept him up, and he would speak often of what he intended doing as soon as he got well.

In his death our community has sustained an incredible loss, his patients their best friend and adviser, our profession one of her safest, soundest and best physicians, and his family more than language can express. He leaves a widow and nine children, with a host of friends, patrons and medical brethren to mourn his untimely death.—I. W. FAISON, M.D., *in the North Carolina Med. Journal.*

ORIGINAL CORRESPONDENCE.

CARBUNCLES SUCCESSFULLY TREATED WITH CARBOLIC ACID.

GOODMAN, MISS., July 25, 1886.

To the Editor of Gaillard's Medical Journal.

DEAR SIR: A patient of mine had suffered much with boils on various parts of his body, some of which were very large and painful. He had been treated constitutionally with alkalies, and also the acids, sulphur, etc., and yet one crop after another made their appearance along the spine and in the armpits. A favorite spot for their location seemed to be the nape of the neck. Finally a very large inflammatory swelling appeared in the lumbar region, which proved to be a carbuncle. A crossed incision was made deeply through the thickened tissues, and this relieved the tension and consequent pain; but the process of sloughing and healing was slow, and his sufferings continued very great. This carbuncle was scarcely healed when another made its appearance over the deltoid muscle. He refused to have this one cut, but readily agreed to submit to an injection of pure carbolic acid made into the substance of the mass. For the moment the pain was severe, but it soon subsided, and the progress of the case from that time was rapid and satisfactory.

Still another carbuncle then appeared in the lumbar region, and this one was enormously large, being equal in circumference to an ordinary saucer. An injection of the pure acid was made at once, and in half of the time it took the first one to heal it was well, while his sufferings were comparatively slight.

Another patient applied for treatment with an unusually large abscess on the back, near the spinal column, and this was treated like the last, with the same satisfactory results. This experience leads me to believe that these carbuncles, and many large abscesses, could be successfully aborted if the above treatment was employed sufficiently early.

Very truly yours,

J. M. HICKS.

REVIEWS.

PUERPERAL CONVALESCENCE AND THE DISEASES OF THE PUERPERAL PERIOD.—By Joseph Kucher, M.D. New York: J. H. Vail & Co., 1886. Pp. 311.

In this volume the author tells us, in his preface, that an attempt has been made "to concisely reflect the views on the management of child-bed, and upon the origin and treatment of the puerperal diseases, as accepted and in practice at the Vienna Lying-in Hospital." A more than four years' service in this great hospital furnished the writer excellent opportunities for becoming acquainted with all the diseases and accidents incident to the puerperal condition, and hence his desire to give to the world the fruits of his observations and experience. The *leitmotif*, however, of the work may properly be said to be a vindication of the truth of the doctrines expounded by Semmelweiss in regard to the origin of puerperal fever, and an earnest endeavor, by the employment of all the author's logical resources, to enforce their adoption in practice. As Dr. Kucher himself informs us, "some of the important chapters are rather sketchy," and the fault of the work is undoubtedly that too many subjects are discussed to receive due justice within the limits he has assigned himself. The first chapter on antiseptics is well worthy of earnest perusal by every physician engaged in obstetrical practice who has not yet given in his adherence to the modern doctrines relating to the treatment of wounds. In the second chapter, which is devoted to normal child-bed, the author gives us his opinion of the binder. "The only benefit," he observes, "a binder can do is to support the abdominal walls when they are very much relaxed. In such a case, or if the patient wishes it, a loose binder is applied two or three hours after labor, when a relaxation of the uterus is not likely to occur." We cannot refrain from quoting here the following remarks of Virchow in the preface to his work on "Cellular Pathology," being so apposite. "I find," he says, "not only that the physicians of antiquity and the Middle Ages had not in all cases their senses shackled by traditional prejudices, but more than this, that among the people sound common sense held fast to certain truths, notwithstanding that criticism of the learned declared them to be overthrown." The sound common sense of women, which induces them to attach so much importance to a well-adjusted binder as a potent factor in "preserving their figures," as they express it, is fully justified by clinical facts when properly studied. Let the author read the excellent article by Prochownick in the "Archiv. für Gynækologie," Bd. XXVII., Hft. 3, upon diastasis of the abdominal muscles in the puerperal condition, to be convinced of the utility of the binder. The treatment of mastitis terminating in suppuration is not altogether satisfactory. The advice, after opening the abscess, to remove the dressing every day, is not in accordance with modern views as to the proper treatment of wounds; on the contrary, the tendency now is to lay stress on rest, uniform compression, and permanent dressing.

In those cases of primary hemorrhage from the uterus in which an astringent injection is called for, the author's preference is for a solution of the perchloride of iron. A solution of iodine, either the U. S. tincture, or Churchill's solution, has such manifest superiority over iron solutions that the latter should never be used; especially—and this is the main thing—as septic infection is so difficult to prevent when the iron is used, whereas iodine is one of the best of all antiseptics. When hemorrhage is from the cervix, in consequence of a laceration, the proper thing to do is to bring together the torn parts by sutures, using catgut by preference. The method of digital compression, which the author has made use of, is not to be commended—so in the case of hemorrhage from the vagina or external genitals, a deep suture, or several in case of need, is infinitely preferable to the use of styptics. The best chapter in the book is, undoubtedly, that upon puerperal fever. Deeply imbued with the conviction of the scientific accuracy of the views held by Semmelweiss, and which the latter advocated with such earnestness and force against the adverse opinions of his contemporaries, he is not afraid to follow them out to their logical results. Armed with these views the obstetrician can now, he believes, enter the lying-in chamber with full confidence in his ability, as a rule, to prevent the development of this justly dreaded malady. As he well says, the chapter on prevention is the crowning glory of Semmelweiss' theory. The author's statement in regard to the relation of diphtheria and erysipelas to puerperal fever are not in accordance with modern investigations—at any rate so far as erysipelas is concerned. "Numerous cases of puerperal fever" he says, "originating from diphtheritic or erysipelatous infection, have been recorded by unbiased observers. The correlation of these affections with puerperal fever is fairly evident from the above considerations." The beautiful studies of Gusseron, both clinical and experimental, have shown, on the contrary, that there is no connection between puerperal sepsis and erysipelas, and that the micrococci of erysipelas, the discovery of which we owe to the epoch-making researches of Fehleisen, are not competent to produce pathological changes identical with septic processes. The style of the book is good, and it is only occasionally that the author gives us a German idiom instead of the correct English expression. In the next edition the author would do well to use solution instead of lotion—as he evidently uses the latter term in that signification repeatedly. In conclusion we would commend this little book in the highest terms as worthy of careful study both by the student and the practitioner.

GEO. T. HARRISON.

THE METHODS OF BACTERIOLOGICAL INVESTIGATION. BY DR. FERDINAND HUEPPE, Docent in Hygiene and Bacteriology in the Chemical Laboratory of R. Fresenius, at Wiesbaden. Translated by Hermann M. Biggs, M.D., Instructor in the Carnegie Laboratory, and Assistant to the Chair of Pathological Anatomy in Bellevue Hospital Medical College. Illustrated by 31 wood-cuts. New York: D. Appleton & Co., 1886. 8vo. pp. 218.

The part that living germs play in the causation of disease is an important one. Their study becomes, therefore, a primary consideration to the professional man who desires to know exact pathological changes and their relation to these minute organisms. Practical medicine is now inseparably connected with a knowledge of bacteriological procedure. The brilliant success of antiseptic surgery is due to a better understanding of the behaviour of germs to certain reägents. The condition called cleanliness is but a state of asepsis. The favorable opinions formed on the results of antiseptic inhalations are becoming more widely known. In all branches of medicine the observer will notice the change for the better since the rôle of bacteria in the etiology of morbid processes has been brought forward so prominently.

No new science, however, has had so many faithful, studious admirers, and none which has been so often discredited by incompetent or hasty observers.

Bacteriology is particularly a study of detail, and in no work is this more evident than in that of Hueppe's, entitled "Methods of Bacteriological Investigation."

This book received very favorable attention in Germany, and has just been translated by Dr. Hermann Biggs. It is a valuable addition to the library of the practitioner, and a useful guide to the student in the laboratory. To the latter, particularly, it is commended as a painstaking exposition of the methods used by the most eminent and successful bacteriologists. To state that the work was written at the suggestion of Dr. Koch, who has given it his most cordial approval, is sufficient evidence of its worth. The work is divided into seven chapters, each a valuable addition to the science, and all making a compact and worthy whole. The chapter on methods of staining and cultivation in solid media is especially recommended.

The translation by Dr. Biggs, with the consent of the author, is a cause of congratulation to him for the care with which he has proceeded. The labor of rendering into precise and graceful English the technical expressions of a German scientist will be appreciated by those who have tried it. It is true that at times the style becomes labored, but it is generally in those places in which exactness of meaning is essential. It is then that the translator sacrifices elegance to a literal translation of the German text. We wish the book the success it undoubtedly merits.

L. J. McN.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA. Ninteenth Annual Session. Held at Charleston, May 19 and 20, 1886. Wheeling, 1886.

This is quite a creditable volume of transactions, and it will be found to contain a considerable number of able and carefully prepared papers. The excellent address of the President, Dr. T. A. Harris, of Parkersburg, is devoted to a review of the history of the Society, and to a sketch of the recent progress made in some of the departments of medicine and surgery.

Among the other papers is one on Heredity and Consanguinity, by Dr. C. C. Hersman, of Weston, in which the author arrives at entirely opposite conclusions from those of Dr. E. S. McKee, of Cincinnati, in his recent paper before the Ohio State Medical Society, in which it is maintained that the facts do not warrant us in supposing that there is a specific degeneration effect caused, *ipse facto*, by consanguinity; and that consanguineous marriages, no other objection being present, should not be opposed on physiological grounds. Dr. Hersman contends that "the State Legislature should take some step to prevent the marriage of relations, thus preventing much misery, grief, and probable degradation; for, in the face of all the facts summed up, how can we doubt the seemingly if not the unmistakably powerful influence of heredity and consanguinity?"

Under the title of "The Plea of an Aggrieved Uterus," which is addressed to the medical profession, Dr. L. D. Wilson, of Wheeling, expresses a great deal of truth in the guise of clever and amusing satire. In the course of it this much abused organ says:

"In my search for knowledge about myself, I accidentally glanced one day into an instrument-maker's catalogue. Here was a find. It made me dizzy to look through it. Such a lot of queer, crooked, ugly and savage-looking things, no uterus ever imagined. I thought I would look over the list of such instruments as are used in the treatment of the less serious disorders attributed to my kind, and this is the result. There were 62 speculums, (one of these is what the Great Man looked at me through,) 31 dilators, 7 uterotomes, 8 scarifiers, (scare-ifiers I first read it,) 113 pessaries, and sounds, and depressors and elevators, and replacers, and uterine forceps, and curettes, and applicators, and syringes. and retractors, and, Oh, I couldn't name them all in an hour. I counted 273 of them, and then quit. I was impressed with one thought, and that was that these gynæcologists must be a wonderfully industrious set of men. Remember, too, that I only counted those instruments which are used in minor uterine surgery, as it is called; I got tired before I came to those used in removal of tumors, vesico-vaginal fistula, and the like. There must be one or two hundred more of these.

"I started out to find out if I could, what gynæcology was founded upon, and I found that if I were left out, there would not be much of the specialty left. It was about what I had expected, and yet it made me uneasy. I wish I didn't occupy such a prominent situation. The gynæcologist, you know, looks at the world through a speculum, and as I am always at the other end of it, he has some excuse, I suppose, for considering me to be the foundation on which the structure of his fortune and fame must rest. But this thing of having a lot of busy, inventive, ambitious men continually at work contriving new reasons for doing new things to me, and devising new instruments to do them with, opens up a prospect which is far from reassuring.

"What I most dread is the legitimate and inevitable result of this state of things. Under the stimulation of emulation, honorable and otherwise, every square inch of my os, cervix and mucous lining is continually interrogated, and its various states of anæmia or hyperæmia, congestion, active or passive, redness or paleness, minutely dwelt upon, the tilt of my body wisely scrutinized, the depth of my fundus carefully probed, every segment of my muscular wall solemnly investigated, mucous follicles inspected, epithelial lining examined, secretions analyzed and differentiated, every constitutent part of myself worked over and compared with some ideal standard, which each individual investigator has set up in his own mind as representing the normal condition. All this concentrated attention directed to an organ which is three inches long, two inches broad, an inch thick, and which weighs from an ounce to an ounce and a half!

"What must be the result of all this? Each and every investigator (as they prefer to call themselves,) will feel that life has been a dismal failure unless he succeeds in discovering some new disease, devising some new operation, or inventing a new pessary. Whereas, before I was only mapped out into states, I am now divided up into counties, and those into districts, and these into precincts, and each and every subdivision becomes the seat of some special pathological condition, with its attendant operation and medicinal treatment. Works on gynæcology multiply, those elongated yellow satchels become more and more bulky, and the pessary-makers "go forth and grow up as calves of the stall."

"And in the midst of all this comes the thought which was so vehemently expressed by the dying man, when his wife at his bedside was loudly lamenting her forlorn future and crying out 'what will become of me?' 'You!' exclaimed the man, 'you're all right. But what's to become of *me?*' So what's to become of me by the time this has worked itself out? Will there be any uterus left to speak of? I fear that my usefulness in the field for which my capacities are adapted would be well nigh ended, and that for the remainder of my days I should be fit for little else than to roost on a pessary and weep the pellucid mucous pellicle. * * * How would it do to have a little change? Suppose you try the plan of resting yourselves by changing the field of inquiry. * * * There is the nervous system. This is another fine field, perhaps the most promising—certainly the most mysterious of all, and I am strongly of the opinion that if it is diligently worked you will find here the origin of the greater part of the mischief which you now attribute to me. About the best friend we uteri ever had was a worker in this department—a Dr. Beard. He is dead now, poor fellow, but if he had lived longer he would have created a diversion which would have brought immense relief to us. In the course of his inquiries he discovered a dreadful state of affairs which he named neurasthenia, which was the prolific parent of all sorts of troubles, and it really seemed, for a little while, that our emancipation had come at last; but about the time all the ologists over the country were beginning to prick up their ears and turn their heads that way, he died, and the thing apparently miscarried, for the gynæcologists returned to their operations on us, and the neurologists went back to working their battery racket; the other ologists to their ologies, and there was an end to our hopes for that time. I wish I could get some one to start this up again."

One of the papers of greatest practical value is that of Dr. D. Porter Morgan, of Clarksburg, on Antiseptics in Obstetric Practice, by the General Practitioner, the latter portion of which is herewith subjoined:

What we demand is, first, a disinfectant capable of destroying the infectious power of the germs in our clothing, without injury or damage to the same; secondly, an antiseptic solution with which we can render our hands and other portions of our bodies aseptic without injury or other unpleasant effects.

Have we such articles? Yes, I believe, from long and careful experience, that we have. I have practiced medicine during a period of seventeen years, and have treated erysipelas in all its forms, diphtheria, scarlet fever, measles, puerperal septicæmia (in consultation only), and have constantly attended my obstetric practice, and never had a case of puerperal septicæmia.

We had scarlet fever in and around Clarksburg for more than three years, almost constantly, of which I attended my proportion of cases. I slept in the same room with my small children every night, when at home, during this long period, and neither of my children had the disease; however, I always changed my clothing, and bathed my hands, face, hair, and whiskers in an antiseptic solution, one which I believe capable of destroying the virus or germs of this most contagious disease. Dare any one deny the fact that had I not used these precautions my children would in all probability have had scarlet fever?

I use as a disinfectant chlorine gas, and as an antiseptic solution or wash a pretty strong solution of chlorinated soda in water, chloride of lime dissolved in water, and solution of bichloride of mercury. I desire to be explicit in this portion of my paper regarding the practical application of disinfectants and antiseptics. I take any ordinary close-fitting box, as a drug box or shoe box, capable of holding two or more bushels, place in the bottom a mortar or other suitable open vessel capable of holding several ounces, then I take a small paper box, perforate the ends, sides and bottom with numerous small holes. Having everything in readiness, I place in the mortar two or three ounces of fresh chloride of lime, add to this a sufficient quantity of a dilute hydrochloric acid to generate chlorine gas quite freely (the black oxide of manganese or the chlorate of potassium will give off the same gas, but the manganese is more costly and the potassium is costly, besides it gives off the gas to a less degree), place the perforated paper box bottom upwards over the mortar, then place articles of clothing which have been exposed to contagion loosely in the large box, close it tightly as possible, and allow the clothing to be exposed to the fumes of this gas about one hour, remove the clothing, add fresh portions of lime and acid, place in more clothing, till every article, including gloves, hat, cuffs, collars, neckties, riding whip, etc., so exposed, has been disinfected. This being finished, I wash my hands and forearms, face, nostrils, ears, neck, hair, and whiskers in a pretty strong solution of chlorinated soda or a solution 1 to 2,000 of bichoride of mercury, at the same time using a nail brush and also cleansing clinical thermometer, hypodermic syringe, or any other instrument or appliance used. Let me here remark that I fear there are many physicians who rarely or never use the nail brush at all. Are not such criminally dirty?

The more recent antiseptics in use in obstetrics are the vulvar pad composed of lint or absorbent cotton medicated with iodoform, a vaginal iodoform suppository, and a uterine iodoform suppository. I have had no experience with these articles, believing, as I do, that, if proper antiseptic precautions be observed during labor, that I will rarely have occasion to use intra-uterine or vaginal antiseptics after parturition is completed. I have not alluded to the post-partum vaginal and intra-uterine injections of various substances, the basis of which is hot water, from the fact that they are not well adapted to private obstetric practice, experience having taught that it was necessary for the physician or an experienced nurse to attend to the details, which, of course, is impracticable to a very great extent in private practice. A recent antiseptic claiming favor at our hands in obstetrics is the biniode of mercury, the strength of solution advised being about 3¾ grains to the quart of hot water; with this remedy I have no experience, but shall try it.

Finally, my object is not to suggest something new or novel, but to call attention anew to a crying evil in our profession. And I firmly believe that if we will adopt thorough and efficient antiseptic methods in our practice—make them of daily routine—we will practically wipe out puerperal septicæmia. Then, admitting this conclusion, which, I presume, those who have given attention to this subject will admit, to what conclusion does the converse of this proposition lead us? Why, it leads us to the very unpleasant conclusion that if we fail to do our whole duty we are no better than criminals; that we become carriers of contagion and death, and that the poor puerperal women are in more danger with our services than without them.

The report of the Committee on Necrology, of which Dr. J. L. Dickey, of Wheeling, was chairman, contains obituary notices of the late Drs. M. F. Hullihan, J. McL. Lazzell, E. A. Hildreth, J. R. Lowry, and J. O. Wall.

NEW MEDICATIONS. By Professor Dujardin Beaumetz, Member of the Academy of Medicine, and of the Council of Hygiene and Salubrity of the Seine; Physician to the Cochin Hospital; Editor-in-chief of the *Bulletin Général de Therapeutique*. Translated by E. P. Hurd, M.D., President of the Essex North District Medical Society, etc. With Appendices and Illustrations. Detroit, Mich.: George S. Davis, 1886.

This work, which comprises 320 pages in all, constitutes two volumes of the new "Physician's Leisure Library," to which reference has already been made in the JOURNAL. It presents in an attractive form a *résumé* of recent progress in Therapeutics, by one of the leading therapeutists of France, as given in the Cochin Hospital lectures for 1884-5, and it cannot fail to be of much practical service to the progressive practitioner. In his preface Dr. Hurd, the able translator, says: "Of the 'new medications,' some have doubtless come to stay. Sparteine and convallaria may be abandoned, but cocaine is a permanent acquisition to therapeutics. We may doubt the remedial value of grindelia roburta, but the pneumatic cabinet will remain a part of the armamentarium of the specialist in lung diseases. Stomach washing (lavage) so exactly meets, therapeutically, certain pathological conditions that it must continue to hold a place in the treatment of stomachal diseases. Certain of the new antipyretics mentioned in these pages will doubtless prove to be of great utility in the future."

He then goes on to add, very truly, "But progress in medicine is destined to be largely in the direction of what our author calls etiological therapeutics, *i.e.*, in a more definite and thorough knowledge of the causes of diseases, and the means requisite for their avoidance and elimination."

In order to make the work more complete, the translator gives, in the form of appendices to the several chapters, references to certain new remedies not mentioned in the text. Among them are included a chapter on lavage and gavage of the stomach, taken from the Dujardin-Beaumetz's volume on "Diseases of the Stomach and Intestines," which has recently appeared in English, and one on the pneumatic cabinet, expressly written for this work by Dr. W. Everett Smith.

The covers are neat in appearance and the paper of good quality, while the typography for the most part is excellent, though it is certainly to be regretted that through carelessness a mistake occurs in the spelling of the name of the author on the title page. Published at such a low rate ($2.50 for the series of twelve, or 25 cents per single volume), the "Physician's Leisure Library" ought to command a very large sale.

THE USE OF ELECTRICITY IN THE REMOVAL OF SUPERFLUOUS HAIR AND THE TREATMENT OF VARIOUS FACIAL BLEMISHES. By George Henry Fox, A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, etc. Detroit: George S. Davis. 1886, pp. 67.

This is another volume of the "Physician's Leisure Library." The author is one of the leading authorities on the subject treated, and in this little book are reprinted a number of papers read before medical societies or published in the journals by him during the last ten years. A few notes have also been added for the purpose of amplifying certain points and presenting the results of more extended experience.

MISCELLANEOUS.

DR. RICHARDSON ON PTOMAINES.—[The following extract from Dr. B. W. Richardson's valuable work on "Preventive Medicine" (pp. 606 *et seq.*), was sent by Dr. L. B. Anderson for incorporation in his paper on "Ptomaines" which appears in the present issue of the JOURNAL; but, unfortunately, it was not received until after the article had already been printed, and it is necessary, therefore, to insert it separately.]

In a long series of experiments in the propagation of disease by inoculation, I lighted upon many curious facts. I found that disease was transmitted from animal to animal by inoculation of various secretions, and, in addition, I learned that the secretions became more and more actively virulent by passing through and affecting an animal body.

Again, I found that the virus or infecting secretion would not only act as a virus by being directly inoculated into the body of the susceptible animal, *but that it could be transformed into an alkaloidal substance*, when it would still continue to produce the specific effects. Fluid drawn from the wound of a patient afforded a virus which I reduced to the alkaloidal state in the form of a crystalline alkaloidal salt. A solution of the salt gave rise to the most distinct form of disease of specific febrile character, and the secretions of the infected animal reproduced the same type of disease in other susceptible animals. I came to the conclusion that any secretion of the living body might be charged with a poisonous substance which was capable of acting as a contagium.

It seemed to be an alkaloid or chemical substance, resembling in physical properties morphine, strychnine, and other bodies of that class. * * * I was led to the conception that the secretions of the animal body are the sources of zymotic diseases. As regards the organic poisons themselves and their physical properties, the great type of them all is represented by the poisons of venomous snakes. If we puncture the poison bag of the cobra, for example, there exudes a peculiar fluid substance almost like clear gum-water. That is the poison. If we gently dry that poison down, it becomes a darkish, somewhat powdery, half-glistening mass. If this be mixed with water and inoculated, it is still poisonous; and if animals be inoculated with the virus so as to be poisoned by it, the secretions of that animal, in their turn, yield a virus which produces similar symptoms.

The multiplication of the poison is through the force of secretion of the person affected, not through the deposit of vegetable parasites and multiplication of them, nor from propagation of living germs. If, for example, the poison from the eye of a person suffering from contagious ophthalmia passes to the eye of another person, presently there is a free secretion, which in turn becomes affected and poisonous. It is not that the particle of poison has propagated a new particle, but it is that the natural secretion of the eye-ball has come in contact with a speck of poisonous matter, and immediately at that point where the speck of poison was implanted there is a change in the secretion. This process widens the circle, more secretions pour out, and the increase goes on until, in the end, the whole body of the animal may become infected by absorption of poisonous matter into the blood from the injured surface.

The organic virus thus formed may be transmitted in three ways. It may be wafted as any solid matter, through the air. It may be borne in linen tainted with the secretions of the patient. It may travel in water or in vapor, etc., etc.

A REMINISCENCE OF GAILLARD.—[The following communication recently appeared in *Daniel's Texas Medical Journal*. While many hold a more favorable opinion in regard to tracheotomy in croup and diphtheria, as ordinarily performed, than Dr. Watt, few will be disposed to deny that the operation is usually attended with very grave danger.]

When I was a first course student of medicine at the Louisville Medical College, our beloved and justly distinguished Prof. E. S. Gaillard (whose lectures were always replete with facts of practical importance), gave the members of his class many hints which have doubtless since proved available in trying situations.

In these days of the world's advance, when malignant affections of the throat—diphtheritic and croupous—seem to be on the increase, and their fatality also much greater than formerly, the physician is often brought face to face with that forlorn hope—laryngotomy or tracheotomy; and having recently encountered a difficult case of croup, my memory has reverted to the period when I sat an attentive listener to the ripe advice that fell from the lips of that eloquent teacher. Indeed, through all the vicissitudes of my student life, notwithstanding I have been under the instruction of some of the most illustrious men of the day in America, the truths and precepts inculcated by that grand and heroic one-armed Confederate soldier most impressed me, and shall ever remain the choicest portion of my student experience.

The case referred to was like most of them in my experience—uncompromising in the onset, rapid, the supervention of alarming dispnœa prompt, and the approach of the end fearfully obvious. What shall I do? Perform laryngotomy or tracheotomy? No! Oh, no! I tried the knife once, and he who has used it once in these affections will be loth to do so again; for croup loves a wound as dearly as does its twin-sister, diphtheria, and oh! the hemorrhage and its consequences! What, then, must we do? Can we see our patient die without an effort on our part to save it? Here I remembered suggestions from Dr. Gaillard. "In these distressing conditions," said he, "after deciding to operate, we must select the operation freest from danger, primary and remote. * * * My plan has been to use, instead of actual incision, attending which there is always much hemorrhage, the ordinary trocar and canula. The puncture must be made with something like a quick thrust, and semi-rotation and moderate and equal pressure. After perforation of the inter-cartilaginous space selected, carefully avoiding implicating important vessels, remove the trocar as in paracentesis, and respiration will readily take place through the improvised channel, to the relief of and complete mitigation of all embarrassing symptoms and to the joy of anxious friends.

"Another good plan to avoid hemorrhage in tracheotomy is to use an ordinary triangular pointed lancet heated to a white heat, puncturing with it the membranes at the chosen site of operation. This may seem barbarous to the uninitiated, but it must be remembered that in the semi-asphyxiated state sensibility is greatly reduced; the thorough impregnation of the system with carbonic acid gas effectually obtunds feeling and establishes, to all intents and purposes, a state of local anæsthesia. The local effect of the cutting in question is beyond doubt highly beneficial; all morbid organization surrounding the point of entrance of the heated lancet is completely destroyed, and the raw surface is not so apt to become affected nor occluded, clogged by the accumulation of disease products."

Either of these modes of operating in croup or diphtheria has advantages over laryngotomy or tracheotomy as ordinarily performed.

Dr. Gaillard also suggested in this connection the use of a small elastic catheter, introduced into the larynx per os in croup or diphtheria—a means sometimes utilized with marked success. [He should really have the credit for suggesting "intubation of the larynx."—*Editor of Daniel's Texas Medical Journal.*]

In presenting these few reminiscences of college life and of my old master to the consideration of my professional brethren, let it be understood that I claim nothing for myself, no originality in connection with the subject, nor for the distinguished professor. These ideas may have originated with him and they may not. I only know they were new to me, and have proved useful in my hands. If this last assurance will induce some timid brother who instinctively shrinks from the horrors of tracheotomy to undertake the relief of some little sufferer by the plan here indicated, I shall be compensated for this hastily written article. W. NEAL WATT, M.D.

PUERPERAL TETANUS.—Dr. W. Netzel mentions in *Hygeia* a case of puerperal tetanus. The patient was a woman of twenty-five, a primipara, who was brought to the lying-in hospital by a midwife a day and a half after labor had commenced. The fœtus was dead, and its large head locked in the pelvis.

The os uteri was 5 centim. in diameter, thick and rigid. Perforation was resorted to. The fœtus and placenta were expelled spontaneously five hours later. The cavity of the uterus was washed out with a 3 per cent. solution of carbolic acid. The temperature rose on the fourth day and the lochia became putrid. Intra-uterine injections of a 3 per cent. solution of carbolic acid were used, and the vagina was washed out with sublimate. On the eighth day trismus and stiffness of the neck appeared. The following day there was stiffness in the shoulder, and spasmodic contractions of the facial muscles, with painful spasms. The temperature was 41° C.; pulse 140. The woman died at midday. Chloral had been given and subcutaneous injections of morphia and curare. On making an post-mortem examination, an ulcer was found in the cervix reaching through the uterine walls to the peritoneum. There was parenchymatous degeneration of several organs. Dr. Netzel considered the tetanus in this case to be a symptom of general septic infection.

A BOY WITH CAT'S EYES.—A case with this heading is reported as now exciting the attention of the oculists of Chicago. Mrs. Quinn, of 471 Wells Street, recently visited the State Eye and Ear Infirmary in company with her son, who possesses the peculiar power of seeing in the dark. One of the surgeons, Dr. Charles F. Sinclair, called in several other oculists to examine the anomaly. The boy was taken into a dark room, and various tests were applied. The eyeballs glistened like balls of fire. The larger portion of the iris is missing, only a small portion being visible on the outer side of each eye. When taken into a dark room an immediate expansion takes place which enables the boy to see perfectly. A strong light blinds him, and from this same peculiarity the boy is able to see objects at a distance with much more clearness than those close at hand. It seems to be a case of coloboma of the iris and choroid, with defective development of pigment, and perhaps with a hyper-sensitive retina.

THE INTERNATIONAL MEDICAL CONGRESS.—Our latest information is to the effect that the arrangements for the great International Congress at Washington are progressing favorably. In the case of many of our European brethren the occasion of a visit to the United States will be a unique one in their lives. We have not yet reached that familiarity with the Atlantic which is such an attainment in our American brothers,—

> Qui siccis oculis monstra natantia,
> Qui vidit mare turgidum.

Nevertheless, many on this side are anxious to return the visits so generously made from the other. And whatever the discomforts of the voyage or the severity of the *mal de mér*, we are likely to have the advantage of much brotherly assistance and advice. It may mark a new era in the treatment of sea-sickness, when so many zealous physicians and surgeons are set in competition for their own relief. Be this as it may, great preparations are being made in Washington and elsewhere, and it only remains for Europe to see that the guests are forthcoming. It is the great element in all such gatherings that they be well "furnished with guests," and we would now urge on the profession and its leaders that they will do a great service by an early decision to attend, and still more by an early intimation of it to those concerned. There are American physicians who have visited England annually for thirty or forty years, and on rare occasions perhaps more than once in the year. The late Dr. Flint, whose absence will be acutely felt at Brighton this year and at Washington next, had come of late years to think nothing so refreshing as a run to the old home of his forefathers. Let us reciprocate the compliment on this high occasion, and make the very Atlantic the measure of our desire to cultivate international science and friendship.—*Lancet.*

In a subsequent issue the *Lancet* mentions a number of well-known British medical men who entertain the intention of going to the Washington Congress, including Mr. John Simon, Dr. B. W. Richardson, Dr. Thudichum, Sir James Paget, Sir Andrew Clark, Sir Spencer Wells, Professor John Chiene, Professor Fraser, and Sir William Turner, and adds: "It is not America alone that is interested in the success of the meeting at Washington, but the profession throughout the whole world, and we might add the world itself. When our profession meets internationally, it is of good omen. We not only stimulate fraternity and scientific rivalry among ourselves, but every thought in advance and every medical discovery is a great boon for the human race and for all nations. We urge on members of our profession in the empire to strain a point to be at Washington on or before September, 1887, where, if report is to be trusted, a very hospitable reception awaits them."

THE PECULIAR PEOPLE.—When one of the Peculiar People has a child, which its own father describes as a peculiar child, the force of peculiarity can scarcely be carried further. When the unlucky child, in addition to the misfortune of having for its father one of the Peculiar People, has to run the gauntlet of the following diseases—measles in January, whooping-cough afterwards, followed by low fever, this succeeded by diarrhœa, and, a week afterwards, convulsions,—we do not need to assume much "peculiarity" in the child to account for its death, either by meningitis, as Dr. Jones, of Blackfriars-road, said, or any other lesion. The shame is that a poor child should have to go through all this without the benefit of medical help. Dr. Jones may be quite right in saying that meningitis—we presume tubercular—is incurable; but he will not deny that, if the child had had the benefit of medical advice for its measles in January and its later ailments, the chances of the occurrence of meningitis might have been diminished. The jury quite approved of the censure and warning expressed by the coroner. It is to be regretted that the parent was not committed for manslaughter. This is the only way to get such people to realize the gravity of their neglect and stupidity.—*Lancet.*

UNFORTUNATE GUY'S.—Guy's Hospital seems to have been for the last few years under an unlucky star. Rarely has it happened to a great medical school to lose in three successive sessions three of its leading members; and hard indeed has been the fate of Guy's to be deprived, by premature and unforeseen death, of three such men as Hilton Fagge, Mahomed, and Moxon.—*British Med. Journal.*

ICE-CREAM POISONING.—Dr. J. W. Kales, of Franklinville, N. Y., writes to the New York *Medical Record:* "I have read with care your editorial and the letter of Dr. Morrow upon the above subject. Some four years ago I had considerable experience with the so-called victims of poisoned ice-cream and the lengthy legal investigation which followed. At that time I carefully searched all the available literature bearing upon the subject, and since have carefully watched the numerous reports of wholesale poisoning that have appeared in the press. The symptoms—acute gastro-intestinal irritation—are always the same. That there are in every hamlet men who will wilfully mingle poison in food I do not believe, nor do I believe that the extract is at fault. If vanillism is the cause, why do we not have cases caused by drinking soda-water? For vanilla is a popular flavor. Why do we not have cases at our fashionable hotels where cream is served? I do not wish to detract from any man's labors, but I do believe that the cause, or rather causes, of the poisoning can be attributed, not to poor gelatine, vanillism, coumarin, or tyrotoxcin, but to the manner in which the cream is partaken. Every law of digestion is violated at the so-called 'ice cream' festival. Every fellow takes particular delight in gorging himself and his 'best girl,' not only with ice-cream, cake, candy, etc., but with every variety of indigestible substance. This process goes on for two or more hours, when outraged nature comes to the rescue and the indigestible matter is expelled with all the symptoms of acute gastro-intestinal irritation. It only excites the public because so large a company are sick, or poisoned if you wish, at the same time. Have we not seen isolated cases, presenting exactly the same symptoms, caused by eating oysters and other food and drinking ice-water? I have. What are the causes of cholera morbus, summer diarrhœa, etc.? Are they other than those of ice-cream poisoning? I say that they are the same. I have arrived at this conclusion after some experience and much study. If any person can convince me of error I trust that he will produce the proof. I am open to conviction."

SLIGHTLY PREMATURE.—A rather comical incident took place at an American wedding in Paris the other day. A number of dainty little boxes had been ordered, bearing the united monograms of the bride and bridegroom upon the lid, to be filled with wedding cake for distribution among the guests. The boxes arrived in good time and the distribution took place. But upon investigation they were found to be filled, not with bride cake, as had been ordered, but with christening comfits.—*Philadelphia Telegraph.*

TREATMENT OF THE BITES OF RABID DOGS.—The chief surgeon to the London police, Mr. Mackellar, has issued a circular to the divisional surgeons advising that in cases of bites of dogs reported to be rabid the following treatment should be adopted: "When possible a ligature to be applied above the part bitten; prompt and thorough suction of the wound, freely washing with water, and the application of absolute phenol (pure carbolic acid). The individual sucking the wound (usually the patient himself) to spit out all the matter so sucked, and to freely wash out the mouth with water. Should the wound be a punctured wound, make a crucial incision, promote and encourage bleeding, and treat as above." The circular adds that the use of nitrate of silver is to be condemned as inefficient, and that the phenol is painful only for a few minutes.

THE FUNCTION OF THE TONSILS.—Dr. R. Hingston Fox, in an interesting article "On the Functions of the Tonsils," in the twentieth volume of the *Journal of Anatomy and Physiology*, expresses the opinion that these glands belong to the digestive and not the respiratory tract, and that their function is to re-absorb certain constituents of the saliva, in the intervals of meals, which would otherwise be wasted. He thinks that the view of their having an absorbing function is further supported by the strong evidence of the power of the tonsils to absorb morbid poisons directly from the saliva.

THE ELECTION OF MR. REGINALD HARRISON.—The news of Mr. Harrison's election to one of the vacant seats on the Council of the Royal College of Surgeons was received with great satisfaction in local medical circles. Admitting freely all the great services which the metropolitan Fellows have rendered to the profession in general and the College in particular, the presence of provincial Fellows on the Council of the latter is an arrangement the justice of which has long been also admitted; and as Birmingham, Leeds, and Manchester have each for years had a representative, it is felt that it is now high time that Liverpool had also its local representative. Mr. Harrison is still in his prime, and it is hoped has a long and distinguished career before him.—*Liverpool correspondence of the Lancet.*

HOMŒOPATHISTS GETTING THEIR EYES OPEN.—The following remarkable passage appears in a recent issue of the (Homœopathic) *N. Y. Medical Times:* "Go on in your sectarian course, ultra devotees of Hahnemann, if you will, be loyal to the teachings of your master if you must, but shut not your eyes to the fact that science has rendered obsolete many tenets of his system and removed the last vestige of an excuse for maintaining an organization of physicians under an exclusive title, distinct and separate from the medical profession at large. The ultra school of medicine has fulfilled the complete measure of its usefulness as a separate organization. Loyalty to truth and progress now demands that it shall drop its narrow sectarian name and no longer seek to keep its members in leading strings. In the nature of things there can be but one system of medicine recognized by science. Either homœopathy must absorb the old school or be absorbed by it."

PAINLESS REDUCTION OF SHOULDER DISLOCATIONS.—Let the patient lie down on his back on the floor or ground, with the dislocated arm outstretched at right angles to the trunk, and also on the floor. Having told the patient to lie quite still and make no effort, let the surgeon, placing the approximate heel in the axilla, make traction gently and steadily at right angles to the line of the trunk; and, as there may be no jerk or evident intimation of the return of the head of the bone to its place, let him ascertain its position, if necessary adducting the limb to make sure; if reduction has not taken place, let him renew and increase the force of traction, and repeat the examination until he has succeeded or failed, in which latter case nothing has been done to interfere with other methods. It is possible that, in many cases, the heel in the axilla may be unnecessary, but it will serve to steady the scapula, and affords a better counter-extending force than the weight of the patient's body, and thus leaves him free to lie still and make no effort as if to aid.—*Dr. MacLeod, in British Medical Journal.*

ARSENIC IN SKIN DISEASES.—The editor of the *Journal of Cutaneous and Venereal Diseases* is desirous of ascertaining to what extent arsenic is used by American physicians in the treatment of skin diseases, and also the results of their experience as to its therapeutical value. Information upon the following points is requested of every physician who reads this:

Are you in the habit of employing arsenic, *generally*, in the treatment of skin diseases?

In what diseases of the skin have you found arsenic of superior value to other remedies?

What ill effects, if any, have you observed from its use?

What preparation of the drug do you prefer, and in what doses do you employ it?

Address, Editor of *Journal of Cutaneous and Venereal Diseases*, 66 West Fortieth Street, New York.

A NOVEL KIND OF PICNIC.—Bridgeport has the whooping cough—not Bridgeport's babies only, but Bridgeport's grown-up population as well. The person without it is looked upon with distrust; the family that hasn't it loses social standing. Somebody lately explained in Bridgeport that it is proper for whooping-cough patients to breathe the fumes that rise from the tar at gas works, and the proper thing is the thing that Bridgeport always insists on doing. The result was that a long line of inhabitants clamored for reserved seats at the gas works. The company hadn't room enough to take all of the army in at once, but there was no withstanding the public demand, and a proclamation was finally issued—printed officially in the local newspapers—by the gas works people saying that to-day they would keep open house. The result is the arrangement for a picnic of rare proportions. Happy Bridgeport! It isn't every town that has something to live for in August weather.—*N. Y. Times.*

EDITORIAL AMENITIES.—Country Editor (to brother editor)—Ah! good-morning, Brother Shears; glad to see you. And how are things up at Pigville?

Brother Shears—Flourishing just at present, but last month we had the hog cholera pretty bad.

Country Editor—I'm sorry to hear that. But you are looking well now, Brother Shears.

HOMŒOPATHIC SOLONS.—The "Southern Homœopathic Association" recently held a meeting at New Orleans at which some one actually "counted twenty seven delegates on the floor at one time," and at which, it seems, a resolution was passed to the effect that, "this Association is opposed to State Medicine." Commenting on this brilliant achievement, *Daniel's Texas Medical Journal* remarks: Doubtless they are under the impression that by "State Medicine" is meant some kind of control of practice by the State, in the interest of the hated "Regulars." * * * * "State Medicine," according to Professor Chaille, "is the application of the aggregate of medical knowledge of the public weal"—the *prevention of epidemics*— the protection of the public health from all kinds, and all sources of danger (quacks included). Let it go on record that *twenty-seven of this class of persons* in these free United States have solemnly declared themselves, in convention assembled, opposed to the *protection of the public health;* opposed to *public sanitation.* "A little learning is" indeed "a dangerous thing." Governor Ireland will have to call out the militia to quell this mob when Dr. Cummings goes to lay those sewers in Austin, so much needed for the "protection of the public health."

A BAD MARE TO RIDE.—A young lady in San Leandro dreamed the other evening that she was riding and that the horse was running away. She jumped and fell from the bed to the floor, dislocating her shoulder. Thrown from a nightmare, as it were.—*Alameda* (*Cal.*) *Democrat.*

A REMARKABLE REMEDY.—Old Mrs Bently—Did ye hear how Deacon Brown is gittin' on?

Old Mrs. Bennington—I heerd he tuk a relapse this mornin'.

Old Mrs. Bently (with a sigh)—Well, I hope it'll do the poor soul good, but I hain't no faith in them new-fangled medicines.

MEDICAL NEWS.

BRITISH MEDICAL ASSOCIATION.—The fifty-fourth annual meeting was held at Brighton, August 10, 11, 12 and 13, Dr. Withers Moore presiding. The gold medal of the Association for distinguished merit has been presented to Dr. Waters, President of the Council, " for his long-continued, self-denying, and able services in the cause of medical reform."

There are only two instances in which the Association has conferred this distinction. The first recipient of this honor was Mr. Henry Naunton Davies, L.R.C.P.Lond., of Pontypridd, who displayed heroic conduct in the Tyne Wydd Colliery accident in April, 1877; and, through his act of bravery, the Association was prompted to found "a medal to be bestowed for distinguished merit." The second was Surgeon-Major J. H. Reynolds, M.B., V.C., on whom the medal was conferred in 1879, in consideration of his bravery under fire, and humanity to the wounded at Rorke's Drift, during the Zulu campaign.

A portrait of Dr. Waters has also been recently presented to the Council by Dr. Bridgewater.

THE AMERICAN OTOLOGICAL SOCIETY.—At the nineteenth annual meeting of this Association, held at New London, Conn., July 20, 1886, the following officers were elected for the ensuing year: President, J. S. Prout, M.D., of Brooklyn, N. Y.; Vice-President, Samuel Sexton, M.D., of New York; Secretary and Treasurer, J. J. B. Vermyne, M.D., of New Bedford, Mass.; Committee on Membership, Gorham Bacon, M.D., W. S. Little, M.D., and E. W. Bartlett, M.D.

The proposition with reference to the organization of a Congress of American Physicians and Surgeons was discussed, and the following were appointed a Committee of Conference: Drs. C. R. Agnew, of New York; H. Knapp, of New York; John Green, of St. Louis; W. H. Carmalt, of New Haven, and George Strawbridge, of Philadelphia.

THE AMERICAN OPHTHALMOLOGICAL SOCIETY.—The twenty-second annual meeting was held at New London, Conn., July 21 and 22, 1886. The following officers were elected for the ensuing year: President, W. F. Norris, M.D., of Philadelphia; Vice-President, H. Derby, M.D., of Boston; Secretary and Treasurer, O. F. Wadsworth, M.D., of Boston.

The following resolutions were adopted:

Resolved, That a committee of five be appointed by this Society and be authorized to confer with committees from other medical societies with regard to the organization of a Convention or Congress of such societies, and report at the next meeting of this Society.

Resolved, That it is the sense of this Society that its welfare would be put in peril by any alliance or co-operation which would interfere with its autonomy or independent meeting.

The committee appointed was as follows: O. F. Wadsworth, Boston; C. S. Bull, New York; George C. Harlan, Philadelphia; Samuel Theobald, Baltimore, and B. E. Fryer, Kansas City.

THE AMERICAN NEUROLOGICAL ASSOCIATION.—At the twelfth annual session, held at Long Branch, July 21 to 23 inclusive, the following officers were chosen for the year: President, Landon C. Gray, M.D., of Brooklyn, N. Y.; Vice-President, John Van Bibber, M.D., of Baltimore; Secretary and Treasurer, Græme M. Hammond, M.D., of New York; Counsellors, B. Sachs, M.D., of New York; Wharton Sinkler, M.D., of Philadelphia.

A resolution was adopted approving of the proposed Congress of American Physicians and Surgeons, and the following Committee of Conference were appointed: Drs. L. C. Gray, of Brooklyn; J. Van Bibber, of Baltimore; W. Sinkler, of Philadelphia; E. C. Seguin, of New York, and Philip Zenner, of Cincinnati.

NINTH INTERNATIONAL MEDICAL CONGRESS.—The Executive Committee has issued Circular No. 2, in which the patrons are announced as follows: The President of the United States, the Hon. Grover Cleveland; the Secretary of State, the Hon. Thomas F. Bayard; the President of the Senate of the United States, the Hon. John Sherman; the Speaker of the House of Representatives of the United States, the Hon. John G. Carlisle.

The following is the list of Vice-Presidents, as far as appointed: McCall Anderson, M.D., London, England; Mr. Thomas Annandale, Professor of Clinical Surgery, Edinburgh University, Edinburgh, Scotland; Professor Dujardin-Beaumetz, M.D., Paris, France; Cuthbert Hilton Golding Bird, M.D., Professor of Physiology, Guy's Hospital, London, England; Professor Carl Braun, M.D., Vienna, Austria; William Brodie, M.D., Emeritus Professor of Principles and Practice of Medicine and Clinical Medicine, Detroit College of Medicine, Detroit, Michigan; W. W. Dawson, M.D., Professor of Surgery and Clinical Surgery, Medical College of Ohio, Cincinnati, Ohio; Thomas M. Dolan, M.D., Halifax, England; F. R. Frazer, M.D., Professor of Materia Medica and Therapeutics, University of Edinburgh, Edinburgh, Scotland; J. A. Grant, M.D., Ottawa, Canada; J. A. S. Grant, M.D., Cairo, Egypt; A. L. S. Gusseraw, M.D., Professor of Obstetrics, Berlin, Prussia; Dr. Hans Ritter von Hebra, Vienna, Austria; Dr. E. Klein, London, England; Mons. Le Baron H. Larry, Paris, France; Sir William MacCormac, Surgeon St. Thomas' Hospital, London, England; Mr. George B. Macleod, Professor of Surgery, Glasgow, Scotland; John S. McGrew, M.D., Honolulu, Hawaiian Islands; E. M. Moore, M.D., LL.D., Rochester, New York; Professor Von Monseil, Bonn, Prussia; Dr. Muller, Berlin, Prussia; William Murrell, M.D., London, England; Charles D. F. Phillips, M.D., M.R.C.S., late Lecturer on Materia Medica and Therapeutics, Westminster Hospital, London, England; Mr. Richard Quain, Professor of Anatomy, London, England; Tobias G. Richardson, M.D., Professor of General and Clinical Surgery, Medical Department, Tulane University, New Orleans, Louisiana; Mons. P. Ricord, Paris, France; Professor John Burdon Sanderson, M.D., London, England; Lewis A. Sayre, M.D., Professor of Orthopædic and Clinical Surgery, Bellevue Hospital Medical College, New York; Dr. Mariano Semmola, Professor of Experimental Therapeutics, University of Naples, Italy; Dr. Leopold Servais, Antwerp, Belgium; J. M. Toner, M.D., Washington, D. C.; Dr. P. G. Unna, Hamburgh, Germany; Professor F. Winckel, Dresden, Saxony; The President of the American Medical Association; the Surgeon-General of the United States Army; the Surgeon-General of the United States Navy.

VICE-PRESIDENTS OF SECTIONS.

General Medicine.—W. W. Cleaver, M.D., Kentucky; J. A. Octerloney, M.D., Kentucky; P. G. Robinson, M.D., Missouri; Thos. F. Rochester, M.D., New York; Preston B. Scott, M.D., Kentucky.

General Surgery.—Professor Filanus, Holland; Mons. Gunn, M.D., Illinois; J. W. Hamilton, M.D., Ohio; W. H. Hingston, M.D., Canada; J. M.

Holloway, Kentucky; J. C. Hutchison, New York; N. S. Lincoln, M.D., District of Columbia; Donald McLean, M.D., Michigan; Donald Macrea, M.D., Iowa; M. Storrs, M.D., Connecticut.

Military and Naval Surgery and Medicine.—C. J. Cleborne, M.D., U. S. Navy; E. H. Gregory, M.D., Missouri; Frank H. Hamilton, M.D.,* New York; W. T. Hord, M.D., U. S. Navy; Frederich Hyde, M.D., New York; G. L. Porter, M.D., Connecticut; Wm. E. Taylor, M.D., U. S. Navy; Edward Warren-Bey, M.D., France; B. A. Watson, M.D., New Jersey.

Obstetrics.—Gustav Braun, M.D., Austria; P. Budin, M.D., France; J. Galabin, M.D., England; John Goodman, M.D., Kentucky; W. M. Knapp, M.D., Nebraska; R. Lowry Sibbet, M.D., Pennsylvania; Isaac E. Taylor, M.D., New York.

Gynæcology.—N. Bozeman, M.D., New York; Henry O. Marcy, M.D., Massachusetts; T. A. Reamy, M.D., Ohio; R. R. Storer, M.D., Rhode Island.

Therapeutics and Materia Medica.—Henry M. Field, M.D., New Hampshire; Albert Frické, M.D., Pennsylvania; George Gray, M.D., Ireland.

Anatomy.—C. W. Kelly, M. D., Kentucky; Samuel Logan, M.D., Louisiana.

Physiology.—

Pathology.—Andrew Fleming, M.D., Pennsylvania; J. B. Johnson, M.D., Missouri; Henry F. Lyster, M.D., Michigan.

Diseases of Children.—William B. Atkinson, M.D., Pennsylvania; William G. Booker, M.D., Maryland; William H. Day, M.D., England; Dr. Cadet de Gassicourt, France; Dr. J. Grancher, France; Dr. Edward Henoch, Prussia; Adoniram B. Judson, M.D., New York; J. P. Oliver, M.D., Massachusetts; Eustace Smith, M.D., England; Charles West, M.D., England; Joseph E. Winters, M.D., New York.

Ophthalmology.—A. W. Calhoun, M.D., Georgia; J. J. Chisholm, M.D., Maryland; P. D. Keyser, M.D., Pennsylvania; Dudley S. Reynolds, M.D., Kentucky.

Otology.—

Laryngology.—M. F. Coomes, M.D., Kentucky; J. H. Hartman, M.D., Maryland; J. O. Roe, M.D., New York; E. L. Shurley, M.D., Michigan; G. V. Woolen, M.D., Indiana.

Dermatology and Syphilis.—James M. Keller, M.D., Arkansas; John V. Shoemaker, M.D., Pennsylvania; George Thin, M.D., London, England.

Public and International Hygiene.—A. Nelson Bell, M.D., New York; John Berrian Lindsley, M.D., Tennessee; J. N. McCormack, M.D., Kentucky; J. F. Y. Paine, M.D., Galveston, Texas; Benjamin W. Richardson, M.D., England; John Simon, M.D., England; J. W. Thudicum, M.D., England.

Medical Climatology and Demography.—Dr. A. Chervin, Paris, France; Traill Green, M.D., Pennsylvania; John H. Hollister, M.D., Illinois.

Psychological Medicine.—Julius Althaus, M.D., England; R. H. Chase, M.D., Pennsylvania; Eugene Grissom, M.D., North Carolina; John C. Hall, M.D., Pennsylvania; P. A. Hooper, M.D., Arkansas; J. S. Jewell, M.D., Illinois; S. S. Schultz, M.D., Pennsylvania.

Dental and Oral Surgery.—W. W. Allport, M.D., Illinois; S. W. Dennis, M.D., California; C. L. Ford, M.D., Michigan; H. L. McKellops, M.D., Missouri; A. T. Metcalf, M.D., Michigan; W. H. Morgan, M.D., Tennessee; A. L. Northrop, M.D., New York; L. D. Shepard, M.D., Massachusetts.

*Deceased.

SECRETARIES.

General Medicine.—J. W. Chambers, M.D., Baltimore, Maryland.

General Surgery.—Dudley P. Allen, M.D., Cleveland, Ohio; Carl Mayde, M.D., Germany; J. R. Weist, M.D., Richmond, Ind.; A. H. Wilson, M. D., South Boston, Mass.

Military and Naval Surgery and Medicine.—J. McF. Gaston, M.D., Atlanta, Georgia; E. A. Wood, M.D., Pittsburg, Pa.

Obstetrics.—A. Charpentier, M.D., Paris, France; T. Felsenreich, M.D., Vienna, Austria; W. W. Jaggard, M.D., Chicago, Illinois; John Williams, M.D., London, England.

Gynæcology.—Ernest W. Cushing, M.D., Boston, Mass.

Therapeutics.—Frank Woodbury, M.D., Philadelphia, Pa.

Anatomy.—Henry Morris, M.D., Philadelphia, Pa.

Physiology.—R. W. Bishop, M.D., Chicago, Ill.

Pathology.—H. M. Biggs, M.D., New York, N. Y.; I. N. Himes, M.D., Cleveland, Ohio.

Diseases of Children.—Dillon Brown, M.D., New York.

Ophthalmology.—S. C. Ayres, M.D., Cincinnati, Ohio.

Otology.—S. O. Richey, M.D., Washington, D. C.

Laryngology.—William Porter, M.D., St. Louis, Missouri.

Dermatology.—W. E. Corlett, M.D., Cleveland, Ohio; F. E. Daniel, M.D., Austin, Texas.

Public and International Hygiene.—George H. Rohé, M.D., Baltimore, Md.; Walter Wyman, M.D., U. S. Marine Hospital Service, New York, N. Y.

Climatology and Demography.—Charles Denison, M.D., Denver, Colorado; James E. Todd, M. D., Chicago, Illinois.

Psychological Medicine.—E. D. Ferguson, M.D., Troy, N. Y.; E. Landolt, M.D. (Berlin, Prussia), Paris, France.

Dental and Oral Surgery.—Edward A. Bogue, M.D., New York, N. Y.; S. F. Rehwinkle, M.D., Chillicothe, Ohio.

AN EXCELLENT EXAMPLE.—We are informed by the Treasurer of the Ninth International Medical Congress that he has received, for the Congress, the sum of $500, donated by the Michigan State Medical Society at its recent annual meeting. The Executive Committee of the Congress must necessarily expend a large sum of money in printing and distributing circulars, and in perfecting all the arrangements preliminary to the actual assembling of the Congress. The liberal action of the Michigan State Society is timely and appropriate. It is very desirable that the good example presented should be speedily followed by the State Medical Societies of other States, and also by the leading Societies in our most populous cities and counties.—*Journal of the Amer. Med. Association.*

SINGING FOR CHARITY.—Mme. Patti and Signor Nicolini recently raised £2,000 for the Swansea Hospital by three concerts at that place. On the occasion of the last concert (August 18) the town was gayly decorated. The hall was crowded, and thousands of people gathered outside.

THE NATIONAL TEMPERANCE LEAGUE, OF ENGLAND, breakfasted the British Medical Association at Brighton, August 13. Dr. N. S. Davis and the other American delegates were welcomed, and a resolution expressing gratitude to Dr. Davis for his fifty years' devotion to the temperance cause was adopted.

THE FATAL GAMING TABLE.—*London*, Aug. 22.—A foreign lady who lost £12,000 at the Monte Carlo gaming tables has committed suicide in a village near Grenoble. This makes the seventy-sixth case of suicide, owing to losses at Monte Carlo, since the beginning of the season.

THE IMPORTATION OF RAGS.—Acting Secretary Fairchild has issued the following instructions to customs officers in regard to the importation of old rags: All old rags imported into the United States in vessels which have passed local quarantine at the port of importation will be admitted to entry in the same manner as other imported commodities—that is to say, without requiring special permits from the health officers as to their landing. The fact that the vessel has passed quarantine will be considered as sufficient evidence that her entire cargo is free from infection.

THE CHOLERA IN JAPAN.—Since the first appearance of the cholera in Japan this year, and up to June 20, there have been 10,276 cases of the disease, 7,803 of which have been fatal. The average death-rate per 100 cases has been 75.93. The total number of cholera cases which occurred throughout the country, from Aug. 23 to Nov. 30, last year, was 11,927, of which 7,152 proved fatal, the death-rate being 59.96. The *Japan Mail* states that a severe epidemic of cholera has broken out at Yokohama and other places. On the 7th of July there were 283 new cases and 215 deaths in the infected districts. The disease shows signs of diminishing in Osaka, but in Yokohama it has assumed an unquestionably epidemic character at the latest reports. The outbreak began in Yokohama, June 30, and the rate of deaths is said to be 57 per cent.

MR. EDWARD SPENCER PRATT, who was recently nominated to be Minister to Persia, was born near Mobile, Ala., and is about thirty-five years of age. His father was W. H. Pratt, a banker and financier, who made himself useful to Alabama in preventing that State from adopting a policy of repudiation. The newly appointed Minister has lived in Europe almost constantly since he was four years of age, and was educated in France, where he completed a course of study in science and medicine. He has travelled a great deal, has been a diligent student of Oriental literature, is an accomplished linguist, and has been a contributor to magazines and newspapers at home and abroad.

DR. J. LEONARD CORNING, of New York, has been appointed consultant in nervous diseases to St. Francis Hospital, Jersey City.

THE COURIER-RECORD OF MEDICINE.—Dr. Brooks has associated Dr. J. R. Briggs with him in the editorship of this journal.

THE MISSOURI STATE BOARD OF HEALTH AND MEDICAL COLLEGES.—At a recent meeting of the Missouri State Board of Health, the following resolution was passed: *Resolved*, That in future a percentage of graduates to matriculates of forty-five (45) or over will be grounds for refusal of registration of diploma and issuing of certificates to graduates of a school otherwise in good standing, provided, however, that before such action is taken by this Board the said school whose diploma is presented for registration shall be notified, and an opportunity be given the faculty thereof for satisfactory explanation to the State Board of Health.

THE MEDICO-CHIRURGICAL COLLEGE, OF PHILADELPHIA, has purchased a new lot, 154 feet square, on Cherry Street near Logan Square. The building now on the lot will be remodeled and enlarged, making due provision for lecture rooms, amphitheatre, dissecting rooms, and laboratories. Within the bounds of this new property will be located the following institutions, which are now united with the college: 1. The Medico-Chirurgical College; 2. The Medico-Chirurgical Hospital; 3. The Philadelphia Dental College; 4. The Hospital of Oral Surgery; 5. The Philadelphia Hospital for Skin Diseases. Prof. Wm. H. Pancoast, who has taught anatomy at Jefferson Medical College for twenty-seven years, has accepted the chair of anatomy in the Medico-Chirurgical College, taking with him the fine anatomical museum collected by his father and himself.

THE AMERICAN SOCIETY OF MICROSCOPISTS.—The following officers were elected for the ensuing year at Chautauqua, N. Y., August 13: President—Prof. William A. Rogers, of Harvard University; First Vice-President—C. M. Vorce, of Cleveland; Second Vice-President—Dr. James E. Reeves, of Wheeling, West Va.; Assistant Secretary—Dr. S. M. Mosgrove, of Urbana, Ohio. Treasurer Fell and Secretary Kellicott hold over until 1887.

NEW YORK STATE MEDICAL ASSOCIATION—*Fifth District Branch.*—The second annual meeting of the Fifth District Branch will be held in Brooklyn on Tuesday, Oct. 12, 1886. There will be a morning and afternoon session. All Fellows are solicited to contribute to the meeting, either by reading papers, notes, or communications, or by exhibiting specimens. The Secretary desires to be notified of the title of any paper to be offered as early as convenient.

J. G. PORTEOUS, M.D.,
President.

E. H. SQUIBB, M.D.
Secretary.
P. O. Box 94, Brooklyn.

THE MEMPHIS HOSPITAL COLLEGE.—The following new appointments have been announced: Professor of Physiology, Dr. T. J. Crofford; Professor of Materia Medica and Therapeutics, Dr. B. G. Henning; Professor of Chemistry, Toxicology, and Hygiene, Dr. Alsten M. West; Demonstrator of Anatomy, Dr. S. A. Rogers.

SURGEON-GENERAL OF THE ARMY.—On August 6 the President retired Surgeon-General Murray on age, and designated Chief Medical Purveyor J. H. Baxter as Acting Surgeon-General.

THE TEXAS STATE MEDICAL ASSOCIATION has issued, in handsome form, a synopsis of the Report of the Special Committee on Surgery presented at the Annual Meeting at Dallas, April 27, 1885; Dr. George Cupples, chairman and reporter. In the preface Dr. Cupples says: As to the scope of this report * * * it was deemed advisable, as far as practicable, to prepare a full report of all the surgical operations performed in the State up to this time, to serve as a starting point and a model for an annual report to be furnished regularly hereafter. * * * As to the object of the report, it is, as was stated at the last annual meeting, that the surgeons of Texas should contribute their share towards the Statistics of Surgery, a duty incumbent on the members of the profession in their individual and in their associate capacity. It was further stated on the occasion alluded to, that the hope was entertained that the example set by the Medical Association of Texas in the premises would be followed by the associations of other States, thus enabling them to place yearly in possession of the National Medical Association for publication such an array of authentic statistics as could be procured in no other manner, and which would form no unworthy pendant to the magnificent work, which will ever remain a lasting monument of the industry and the professional ability of the officers of the Bureau of the Surgeon-General of the United States Army, in their Medical and Surgical History of the Civil War. If the whole truth must be told, the writer of this report remembers to have read in the London *Lancet* some years ago, "What good (professionally, that is) can come out of Texas?" and he has it very much at heart to answer the sneer of the great London journal by proving from a survey of their work that the surgeons of Texas, country doctors though they be, though no long string of academic-honors illustrate their names, are second to those of no country in the variety, the boldness, and the success of their operations, in practical skill, in fertility of resources, and in that self-reliance founded on knowledge without which no man can be a succesful surgeon.

The synopsis contains an alphabetical list of surgeons whose operations are included in the report, and elaborate statistical talks of the various operations, which reflect the highest credit on the profession of Texas.

"PROGRESS."—The first number of this handsome new journal, published at Louisville, Ky., and edited by Dr. Dudley S. Reynolds, speaks well for the ability and industry of the profession in Louisville. The number and variety of the original articles are remarkable; but as they are, with scarcely an exception, contributed exclusively by Louisville physicians, it would hardly seem possible for the accomplished editor to present so rich a supply of matter of this kind in future numbers unless it is to be derived from a wider field. The curtailment of the original department, however, would be no disadvantage, as in the issue in question there is very little space left to record what the profession outside of Louisville is doing in the way of "progress." The number contains forty-eight pages printed in double columns.

THE ALABAMA MEDICAL AND SURGICAL JOURNAL.—The establishment of this journal supplies a real want among the profession of Alabama, and the first number reflects great credit on its managers. It has a goodly array of original articles and contains altogether eighty pages of interesting and well-printed matter. If the editors could suppress the poetical contributor who supplies the remarkable effusion entitled "Anniston Made Wet," the readers of the journal would have reason to be thankful.

THE ANNALS OF HYGIENE is the title of a recently established monthly journal "devoted to the fostering of preventive science and the preservation of health." It is announced to be the official organ of the State Board of Health of Pennsylvania, and is edited by Dr. Joseph F. Edwards, the well-known assistant editor of the *Medical & Surgical Reporter* of Philadelphia. The July number is a most attractive one, and contains five excellent papers, by physicians of eminence, read before the Sanitary Convention held under the auspices of the Pennsylvania State Board of Health, at Philadelphia, May 12, 13, and 14, 1886.

PHYSICIANS' AND DENTISTS' INSURANCE ASSOCIATION.—The North American Mutual Benefit Association, of Chicago, has organized a separate and distinct physicians' and dentists' insurance association, incorporated under the laws of

Illinois, which is under the immediate control and supervision of an executive committee composed exclusively of members of the medical and dental professions. There are also special advisory boards of similar construction in Chicago, Cleveland, Cincinnati, Indianapolis, Detroit, and Milwaukee. Full particulars in regard to this association, which offers special advantages to medical men, may be obtained from the Secretary, W. G. Farrar, Esq., 165 Jackson Street, Chicago, Ill.

THE ST. JOHN'S GUILD of this city has organized a special corps of physicians to visit the poor at their homes and distribute tickets for the Guild's Floating Hospital excursions and Seaside Nursery. During the past summer this most excellent charity has carried on its beneficent work with great energy, and has been the means of doing incalculable good among the suffering tenement-house population. A lady thus writes of her personal observation of it: I recently spent a day very agreeably with some of the managers of St. John's Guild. We went on their barge to the Seaside Nursery, where I was much pleased to find Dr. Pope in charge. He has two large wards filled with comfortable little white beds, over each of which swings (within reach of the mother's hand) a tiny cradle. The wards are almost as fresh and breezy as the deck of the barge, being beautifully ventilated, and the windows open out on to the bay on two sides, and on the other two sides upon a beautiful grove. Dr. Pope (Alexander B., of Georgia), who has had the children's service at Bellevue, seems to be the ideal physician for the place, being so kind and cheery and gentle with the children as to win very easily their confidence and love. This seaside nursery is the most beautiful charity that could have been imagined, and, as every child's mother is allowed to remain as nurse, the benefit is not confined to the children.

OFFICIAL REPORT OF THE MORTALITY IN THE STATE OF NEW YORK FOR THE MONTH OF JUNE.—According to the monthly bulletin of the State Board of Health, the reported mortality for the month of June is 6,336; of which 35.3 per cent. were under the age of five years. From Zymotic diseases there were 1,220 deaths, a ratio per one 1,000 total mortality of 193.65. The ratio per 1,000 of deaths from Typhoid fever is 6.20; from Diarrhœal diseases, 73.80; from Croup and Diphtheria, 60.32; from Consumption the ratio of mortality is 144.60 per 1,000 deaths from all causes; and 223.88 per 1,000 deaths above the age of five years. The combined death-ratio per 1,000 from Zymotic diseases, Consumption and Puerperal diseases, is 333.65. From Acute Respiratory diseases there were 99.36 deaths per 1,000.

DEATH OF DR. R. C. HAMILL.—Died at his residence in Chicago, on July 21, 1886, Dr. R. C. Hamill, one of the oldest and most highly respected practitioners of medicine in the city. Although seventy-eight years of age, he had continued to attend to his ordinary professional duties more or less, until near his death. For many years he had been an active member of the Chicago Medical Society, the Illinois State Medical Society, and the American Medical Association, to the *Transactions* of all of which he had made valuable contributions. He was a faithful, generous, and skilful general practitioner, commanding the full confidence of a wide circle of patrons. As a citizen he was universally respected, for he was a man of perfect integrity whose highest enjoyment was derived from relieving human suffering and in promoting the best interests of the whole community.—*Journal of the Amer. Med. Association.*

DEATH OF DR. ALFRED S. PURDY.—Dr. Alfred S. Purdy, a well known New York physician, died July 22, of pneumonia. Dr. Purdy was born in 1808 in this city, where he has been a constant resident, and where he practiced his profession for fifty-five years. He entered the office of Dr. Alexander H. Stevens, a noted surgeon of the day, and afterwards studied at the College of Physicians and Surgeons, from which he was graduated in 1834. Dr. Purdy was one of the founders of St. Paul's Methodist Episcopal Church, of New York, of which he was a trustee at the time of his death. He was for many years a member of the Medical Society of the County of New York, of the Academy of Medicine, and of the Pathological Society.

DEATH OF DR. PLEASANT P. PEACE.—Dr. Pleasant P. Peace died at his residence in Wake County, N. C., on the 25th of June. He was born in Greenville, N. C., and educated at William and Mary College. Three years after graduating there he received his degree of M. D., and began his professional life in his native county. During the war he first served as surgeon to Green's batallion; but, desirous of being actively engaged among the fighting men, he entered the 47th regiment as a lieutenant, under Capt. J. J. Davis, of Franklin County. After the capture of Capt. Davis, at Gettysburg, Dr. Peace commanded the company until June 2d, 1864, when he was dangerously wounded, and was permanently invalided. He was a consistent member of the Presbyterian Church, and his life was an illustration of his religious professson.—*North Carolina Med. Journal.*

DEATH OF DR. W. J. BURT.—Dr. W. J. Burt, Secretary of the Texas State Medical Association, died at his house in Austin on July 9th, of acute dysentery. Dr. Burt, says the *Courier-Record of Medicine*, was universally loved and held in the highest esteem. "He was the very soul of honor, and his great and persistent labors, as the most active member in our State Association, will ever be held in grateful remembrance."

"A DOCTOR'S EXPERIENCES IN THREE CONTINENTS."—As Dr. Warren-Bey's charming book of reminiscences contains so much of special interest to the profession, the announcement is made with much pleasure that an arrangement has been made by which any subscriber to GAILLARD'S MEDICAL JOURNAL can now obtain a copy of the work at the extremely low price of $1.50 by addressing the Publisher, P. O. Box 1124, New York City.

EDITORIALS.

TYPHO-MALARIAL FEVER.—In the masterly exposition of the differential diagrams of certain of the infectious diseases which Prof. Edward G. Janeway made at the last meeting of the New York County Medical Association, and which, it is announced with much pleasure, will shortly be published in full in the JOURNAL, the distinguished author gave expression to views concerning so-called typho-malarial fever which there is little reason to doubt will eventually be universally accepted by the profession.

The term typho-malarial fever, he rightly said, has led to much confusion in the diagnosis of fevers, and also to some detriment to the public health. It has been customary with not a few practitioners to use this term when meeting with any unusual fever-curve, instead of investigating as to the possibility of such irregularity denoting another than the disease supposed to be present. Dr. Janeway does not believe it possible to admit the use of this term in any other sense than that adopted by Professor Flint in his "Practice of Medicine," viz.: as indicating an addition of the symptoms of malarial poisoning to those of typhoid fever, with the effect of rendering the course of the disease peculiar. Dr. Woodward, who originally propounded the name, under the impression that it described a special variety of fever, came to hold this view also. Yet the persistence with which the term is adhered to, with this idea that it is really indicative of a specific form of disease, shows the necessity of directing attention to the matter.

Dr. Janeway expressed the conviction that it would have been wiser to altogether dispense with the term, and, under the head of typhoid fever, consider the malarial poison as capable of producing a considerable variation in the ordinary course of this disease. The irregularity which characterizes the use of the term is due to three facts occurring in the course of typhoid fever. In the first place, the fever of typhoid is remittent in character, with a gradual rise during the first week of its course. Secondly, this same remitting character is seen in the latter part of the course of many typhoid cases. Finally, the occurrence of sepsis in the course of a typhoid will also produce an apparent malarial or remitting character to the fever. Should chills or decided variations of the temperature come at certain periods of each day, or alternate day, then, in a malarial district, it would be right to assume that the combination was present.

Dr. Janeway stated that in his large experience in New York City it has happened extremely rarely that in a person dead of typhoid fever evidences have been found at the autopsy proving the existence of a malarial poison. In an interesting case which came under his notice last year, however, marked evidences of this kind were present.

In other portions of the country he had no doubt that this combination was more frequent. He then related two cases of fever, one of which occurred in a young man who died in Bellevue Hospital. The room-mate of this patient, who had been sick at home, also died, and in the death certificate, which was signed by a reputable practitioner, it was stated that the cause of death was typho-malarial fever. Dr. Janeway made an autopsy in the case of the young man who died in the hospital, and the only lesions present were those of an ordinary typhoid. So, also, not infrequently when an outbreak of fever occurs in a country town or in an institution, the disease is supposed by some to be typhoid, by others to be typho-malarial fever. He has had the opportunity of making an investigation in nine cases of this kind, and has always found that the disease was typhoid.

In order to avoid such mistakes he very properly suggested that a careful study of each case of fever should be made, and careful records of the course of the disease kept. It would then be found that the phenomena in many, even if somewhat modified in some, pointed decidedly to typhoid; that is, excluding the possibility that typhus might be present. Even in very malarious districts he had no doubt that many of the cases of typhoid would run a perfectly characteristic course, unless disturbed by medication. Of course, such medicinal interference may alter a temperature chart, and we must be prepared to meet with such differences as this cause would produce.

Dr. Janeway then called attention to still another point about an outbreak of typhoid fever when occurring in an institution or other place where a number of persons are affected, and that was, the short course of many cases. Not a few physicians hesitate to pronounce a disease typhoid fever unless it extends to the usual duration of this affection, but in any outbreak involving a large number of individuals it should always be borne in mind that in a certain proportion of these the disease will perhaps last only from three to ten days.

One of the latest writers who has advocated the existence of a specific disease under the designation of typho-malarial fever is Dr. Thomas Hebert, of New Orleans, La., in the June number of the *New Orleans Medical and Surgical Journal ;* but there is nothing in his argument which in any way conflicts with the hypothesis that so-called typho-malarial fever is nothing more or less than typhoid or enteric fever with its ordinary course modified to a greater or less exent by the presence of malarial poison in the system. Typhoid fever is a distinct and specific infectious disease, which is due to a specific cause, and which is invariably characterized by certain definite intestinal lesions ; so that if in any case of fever these particular lesions are present, it is a case of typhoid, and if they are not present, it is not a case of typhoid, whether there is any malarial complication or not. Of course, in practice cases will arise, from time to time, in which the diagnosis is enveloped in much obscurity ; but the sooner that medical men disabuse their minds of the idea that there is any such specific disease as typho-malarial fever, the fewer will be the mistakes made. When those who advocate such a view have demonstrated the existence of a special micro-organism for typho-malarial fever, and have proven that it is the essential cause of the disease, it will be time enough to accept the proposition that there is any such distinct affection.

In the paper referred to Dr. Hebert acknowledges that more than two-thirds of the cases of so-called typho-malarial fever which have occurred under his observation existed in town, and would seem in this light to have some connection with air or water contaminated by filth, as in pure typhoid fever. In this connection he also says: " During the summer, when we have many consecutive days of dry, sultry weather, roofs of houses contract a coating of dust, which is washed down through the gutters during the first shower, unless provision has previously been made to prevent this occurrence, by the arrangement of some special mechanism in the gutters, to deflect this muddy stream. Many of our privies are constructed without sinks or other receptacles, and fæcal excrementitia are allowed to accumulate upon the surface of the ground. This matter drying, no difficulty presents itself in the supposition that a certain quantity of it, with other forms of filth, might find a lodgement in the dust on the roofs of houses, and thus find its way, by repeated washings, into our drinking water."

In the latter part of his paper Dr. Hebert reports an interesting series of five cases, observed by him during the late summer and autumn of last year, which point very distinctly to personal contagion as a factor in the production of the disease, and, in addition, prove the fact that frost may have no power to check the development of cases. "In these somewhat remarkable cases," he says, " contagion seemed to follow the two cases which were characterized by profuse watery discharges from the intestines. "The evidence here presented is very strong in indicating a personal essential contagion as playing a very important part in the etiology of this fever. This conclusion is heightened by the fact that no other cases existed in this locality to my knowledge at the time, and that they occurred among a class of persons who were very apt to disobey or neglect any orders and suggestions made in regard to the precautionary disposition of the egesta."

There would seem to be little question that the disease here referred to can be nothing else than typhoid fever, whether those affected were or were not also the subjects of malarial poisoning.

In the synopsis which he gives of the clinical course of typho-malarial fever, as derived from an analysis of twenty cases treated by him, Dr. Hebert presents nearly all of the characteristics met with in ordinary typhoid fever, but states that he has not been able to discover any well-marked signs of the eruption of typhoid. It must not be forgotten, however, that the eruption, which is a valuable aid in diagnosis when present, is by no means invariably to be found; and it is perhaps possible also that some of the cases were not typhoid, but purely malarial in character, though of somewhat unusual type. Three of the twenty cases proved fatal, and it is to be regretted that no autopsies were made, or, if they were, that their results were not reported in the paper. In every doubtful case of supposed typhoid the time may come when we will insert a hypodermic syringe into the spleen, after the manner of Philopowicz, for the purpose of examining the blood thus withdrawn for the presence of Eberth's baccillus; but that time can hardly be said to have as yet arrived.

In this connection it is worthy of note that in the report on malarial fever of the special committee on collective investigation of disease, presented to the Missouri State Medical Association at its annual meeting in May last, and pubished in the July number of the *St. Louis Courier of Medicine*, it is stated that in answer to the question, "Is typho-malarial fever a mixed, or is it simply a typhoid condition of malarial, fever," only two of all those interrogated expressed the opinion that it is a distinctive continued fever, produced by a special cause, and not presenting the characteristic lesions of either of the other diseases named. The chairman of the committee, Dr. B. F. Hart, of Brownsville, thinks it most likely that the disease, so-called typho-malarial fever, may be an imperfect recognition of either typhoid fever, malarial fever with adynamic conditions, or typhoid fever complicated with more or less malaria in the system. He is inclined to believe that "in most cases the disease is caused by malarial poisoning, pure and simple, in systems whose vital forces have been previously lowered to such degree as to cause them to be unequal to the task of contending, with fair success, against an overpowering concentrated poison; and hence, the blood is filled with living, dying and dead spores, and thoroughly vitiated and more or less disorganized by them, and requires a long time from which to recuperate; showing, meanwhile, all the marks of a low grade of fever."

In a paper lately read before the Detroit Medical Library Association, and published in *The American Lancet*, Dr. W. H. Long, Surgeon in the Marine Hospital Service, while denying the existence of a disease which can be properly characterized as typho-malarial fever is disposed to attribute the great majority of cases which have hitherto been designated by this name to the "thermic fever" of Guiteras, and states that he can see no reason why it may not be found in any latitude where sunstrokes occur, or where the degree of temperature is sufficiently high to produce a feeling of discomfort or lassitude for any considerable length of time. Finally, among other recent references to this subject, it may be noted that Dr. B. F. Humphreys, of Hawkins, Texas, in a valuable paper on the differential diagnosis of the continual fevers of malarial regions published in the *Nashville Journal of Medicine and Surgery*, denies the existence of any such distinct disease as typho-malarial fever. In those cases where the typhoid fever poison is distinctly present in a malarious subject, he says very truly, "it yet remains to be proven that the difference sometimes observed in the appearance of the ulcers in Peyer's glands is due, as has been claimed, to the combined operation of malaria and the typhoid poison, as not sufficient. This system has now been in operation nine years, and has gradually been consolidated and improved by educating local boards, and getting all physicians interested in it, until it is now working fairly well. Much remains to be done, and it is too soon to predict results; at present, the success of the system is largely due to the wisdom and energy of one man, who has given his whole time and labor to the work, and it remains to be seen whether the machine which he has built will work well without him.

"The second system to which I will call your attention, is that of the State of Illinois, which was commenced in 1877, or about the same time as that of Alabama. In Illinois any one who presents a diploma, or license to practise, from a legally chartered medical institution in good standing, is entitled to practise, and the State Board of Health is to decide as to what shall constitute "good standing." The Board of Health also examines all persons who do not possess satisfactory diplomas, and who nevertheless wish to practice in this State. One of the greatest practical difficulties in the way of providing any system of State examinations in medicine in the United States, is that public opinion will not support any law which can be supposed to condemn or in any way to injure homœopathic and eclectic practitioners or their schools, and hence any proposed law relating to medicine, or to the organization of State boards of health, which does not recognize the existence of these sects will, in many States, at all events, meet with enough opposition to defeat it. In Illinois this difficulty was surmounted by the arrangement that, of the five physicians on the Board, one should be homœopathic and one eclectic. The Kansas law, passed last year, goes further in this direction, and provides that appointments must be so made that no school of medicine shall ever furnish a majority of the members of the Board. Much to the surprise of many, the Illinois plan has worked very well—there has been no quarrelling in the Board—and the homœopathic and eclectic members seem to have upheld quite as high a standard of qualification as their fellow members. The results of the work in Illinois have been very good. A large number of ignorant charlatans were forced to leave the State. The requirements of the Board as to what shall constitute a medical college in good standing have been raised, and it has thus caused improvement in the medical schools, not only of Illinois, but of other States. Moreover, the neighboring States have been stimulated to action, not only by the force of example, but because they received the men who had been driven out of Illinois, and found the accession an unpleasant one.

"As in the case of Alabama, it is too soon to judge definitely of the results; and in Illinois, also, the satisfactory working of the system is largely due to one man, the Secretary and executive officer of the Board, who has given his entire time to the work. I do not, by any means, wish you to suppose, however, that I consider this as being a serious objection to this or any other plan, for in the building up of any organization, or the carrying out of any system, much must always depend upon some one man."

In referring to the relations of the United States Government to medical education and to the practice of medicine, he states that, while they are indirect only, these relations have of late years become of very considerable practical importance, and are now exerting much influence upon medical investigations and literature. "This is being effected by the museums and libraries which are now being formed under the auspices of the Government ington, and also, to some extent, by certain special investigations by the Government in the interests of preventive medicine. Of agencies one of the most important is the library which has t eloquence which is duly aired every year upon the subject. There are some advertising charlatans and traveling quacks occasionally to be met with, but they are rare.

"The most rigid tests of qualification in our profession in the United States are those required of candidates for admission into the medical departments of the army and navy. The standard established for these is about the same as that for the corresponding corps of the English army and navy; and of the candidates who apply, from seventy to eighty per cent. are rejected. Certainly we must admit that this percentage indicates an unsatisfactory state of things; but what evidence have we as to its results upon the health and life of the people? * * *

"Now, seeing that really efficacious legislation with regard to medical education or the practice of medicine must, like all efficacious legislation, be substantially in accord with public opinion, since it is impossible to continue to punish for any length of time that which public opinion does not condemn; and as the great mass of the people of the United States have not as yet had such evidence as they can understand, and which would thoroughly convince them that it is to their interest to suppress quackery, it follows that it is necessary to go slowly and to allow such evidence to accumulate.

"To me it seems that the most important of the first steps to be taken in this direction is one which has already been taken in Great Britain—namely, the requirement that every death in the community shall be registered, and that in such registration satisfactory evidence shall be given as to the cause of death, sufficient, at least, to prove that such cause is what is known as a natural cause—that is, that it is not due to crime. When it is admitted that one of the duties of Government is to provide for such registration, both in the interests of life and to secure the rights of property, it follows, necessarily, that those persons whose certificates as to the cause of death are to be accepted as satisfactory evidence that there has been no foul play must present evidence that they are properly qualified to make such certificates. The principle is precisely the same as that which induces a Government to provide for the examination of the medical men whom it employs in its army and navy.

"So far as the art of medicine is concerned, the demand has much, though by no means all, to do with regulating the quantity and quality of the supply; and there are few localities in the United States where the qualifications of the medical man is not fully up to the standard which the community is able to appreciate and is willing to pay for."

In speaking of the various methods which have been tried in different States to insure by law that physicians shall be properly qualified, Dr. Billings calls attention to two which he regards as of special interest. "The first is that of Alabama, the principle of which is to organize the whole medical profession of the State, and use it as the means of regulating the qualifications of practitioners and of caring for the public health. The Medical Society of the State of Alabama with its branches, the county medical societies, thus forms a part of the machinery of the Government; it appoints boards of medical examiners, selects State and county sanitary officials, supervises the registration of vital statistics, the administrations of quarantine, etc.—in short, it is the State Board of Health, and the county branches are the county boards of health. In this State the possession of a diploma does not give the right to practise, it simply enables the owner to go before the examining board. The examinations before the County Board are partly in writing, and are subject to view by the State Board, which has in some instances publicly condemned the local examinations as not sufficient. This system has now been in operation nine years, and has gradually been consolidated and improved by educating local boards, and getting all physicians interested in it, until it is now working fairly well. Much remains to be done, and it is too soon to predict results; at present, the success of the system is largely due to the wisdom and energy of one man, who has given his whole time and labor to the work, and it remains to be seen whether the machine which he has built will work well without him.

"The second system to which I will call your attention, is that of the State of Illinois, which was commenced in 1877, or about the same time as that of Alabama. In Illinois any one who presents a diploma, or license to practise, from a legally chartered medical institution in good standing, is entitled to practise, and the State Board of Health is to decide as to what shall constitute "good standing." The Board of Health also examines all persons who do not possess satisfactory diplomas, and who nevertheless wish to practice in this State. One of the greatest practical difficulties in the way of providing any system of State examinations in medicine in the United States, is that public opinion will not support any law which can be supposed to condemn or in any way to injure homœopathic and eclectic practitioners or their schools, and hence any proposed law relating to medicine, or to the organization of State boards of health, which does not recognize the existence of these sects will, in many States, at all events, meet with enough opposition to defeat it. In Illinois this difficulty was surmounted by the arrangement that, of the five physicians on the Board, one should be homœopathic and one eclectic. The Kansas law, passed last year, goes further in this direction, and provides that appointments must be so made that no school of medicine shall ever furnish a majority of the members of the Board. Much to the surprise of many, the Illinois plan has worked very well—there has been no quarrelling in the Board—and the homœopathic and eclectic members seem to have upheld quite as high a standard of qualification as their fellow members. The results of the work in Illinois have been very good. A large number of ignorant charlatans were forced to leave the State. The requirements of the Board as to what shall constitute a medical college in good standing have been raised, and it has thus caused improvement in the medical schools, not only of Illinois, but of other States. Moreover, the neighboring States have been stimulated to action, not only by the force of example, but because they received the men who had been driven out of Illinois, and found the accession an unpleasant one.

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In referring to the relations of the United States Government to medical education and to the practice of medicine, he states that, while they are indirect only, these relations have of late years become of very considerable practical importance, and are now exerting much influence upon medical investigations and literature. "This is being effected by the museums and libraries which are now being formed under the auspices of the Government at Washington, and also, to some extent, by certain special investigations undertaken by the Government in the interests of preventive medicine. Of these various agencies one of the most important is the library which has been formed at

Washington, under the auspices of the medical department of the army in connection with the Army Medical Museum ; both of these institutions being a part of the results of the late civil war. The museum was at first formed to illustrate military medicine and surgery, giving the results, primary and secondary, of injuries inflicted by modern weapons of warfare and of the diseases of armies in the field; in which direction the collection is unrivalled in extent and completeness. Gradually its scope has been enlarged to include illustrations of anatomy, development, and all branches of pathology and therapeutics, so that it is fast becoming a museum covering the whole field of medical science. In like manner, the library, which commenced in a collection of those books relating solely or especially to military medicine and surgery, which were required in the compilation of the "Medical and Surgical History of the War," has expanded into a great medical library, which is now one of the best practical working collections of the kind in the world. These collections, then, no longer appertain exclusively, or chiefly, to the business of one department, but belong to the whole profession of the United States as a body; and the department which has charge of them is managing them from this point of view. The influence of the library in stimulating research, and upon the quality of medical literature, is already very perceptible, and is destined to increase with advancing years. I think I may also venture to claim that the utility of these collections, and especially of the library, is by no means confined to the medical profession of the United States, for the catalogues and indexes which are being issued in connection with them are of service to medical writers and teachers all over the world. * * *

"In this connection should be mentioned the National Museum of Hygiene, which has been formed under the direction of the medical department of the United States Navy, which is now one of the most instructive collections of the kind in the world, and has also connected with it an excellent library and a well-equipped laboratory.

"Comparative and experimental pathology is also receiving attention from the Government under the direction of the Department of Agriculture, which is doing some good work in the investigation of the diseases of our domestic animals. Our investigators are, fortunately, not hampered by anti-vivisection laws, and there is little danger that they ever will be, for though we have our due proportion of fanatics and seekers of notoriety who wish to emulate the British Antis-, their true motives are so well understood that they have little power to do mischief."

Our space admits of only one more quotation, which is from the second part of Dr. Billings' address, the subject of which is, the direction or manner in which there is hope that medicine will be developed in the United States, and the kind of co-operation which our foreign friends may reasonably expect to receive from the medical profession of this country.

"In one sense medicine, as we have it to-day, is the result of co-operation; not of deliberate, centrally planned and direct co-operation, but of natural selection from results produced by many men, often working at cross purposes, and therefore wasting much energy, but nevertheless working, though blindly, to a common end. And it is safe to predict that in the future much of the best work will be done in the same way—by individual effort inspired by the love of science, by personal ambition, etc. But the results obtained in this way come slowly, and some things that we want can hardly be obtained by individual effort, even if we were willing to wait; hence we must look to organization for help.

"This is an age of machinery, of exchanges, of corporations, for all these correspond to one and the same fundamental idea. Men make machines to do what the individual cannot do, and they make them not only of brass and iron, but of men, for such an obvious source of power to the man or men who can master the combination is not likely to be overlooked. One result of such organization is seen in our encyclopædic works on medicine, whether these be called dictionaries or handbooks; another in the great medical journals; another in associations which seek to wield political influence; another in the comparatively recent attempt at collective investigation of disease. With these may be classed also the attempts of Government departments to make scientific investigations, to collect libraries and museums, to do things which require long continuity of effort on a definite plan in order to produce the best results. And it is by the combination of all these, with the efforts of individual workers, that substantial advance and improvement are to be effected.

"In this broader view of co-operation it is interesting to consider those fields of labor to which comparatively few physicians can devote themselves because of want of time and opportunity, but whose proper working is, nevertheless, of the greatest importance to the practitioner. One of these is experimental laboratory work, and in this direction the prospect of valuable contributions from America is now exceedingly good. Some of the wisest of our most wealthy men have shown their appreciation of the responsibilities which riches entail on their possessors by seeking new channels through which to benefit their fellow men. While the old and well-known methods of endowing hospitals and charitable institutions are not neglected, there is apparent an increasing tendency to endeavor to promote the advancement of knowledge, and especially of such knowledge as tends to the mitigation of suffering and the improvement of the race; to furnish means for the investigation of disease, to provide laboratories, and to endow medical schools, and thus place them beyond the reach of the temptations and difficulties which must always exist when such schools are dependent upon the fees of students, and are therefore practically commercial manufacturing establishments.

"As illustrations of this tendency, I may mention the bequest of £1,400,000 by John Hopkins to endow, in the city of Baltimore, a university and a hospital, of which the medical department is to be a special feature, to be provided with the best laboratory and other facilities for original investigation as well as for teaching; the gift of Mr. Carnegie to the Bellevue Hospital Medical School of New York in the shape of a well-equipped pathological laboratory; the presentation by Mr. Vanderbilt and the members of his family to the College of Physicians of New York of £200,000, to provide for that school new buildings and clinics having the best means of teaching and research; and the endowment by an unknown donor of a laboratory for the University Medical College of New York with the sum of £20,000."

In connection with Dr. Billings' address, the following particulars in reference to the organization of the profession in Alabama, given by Dr. Cochran, the senior Censor of the Medical Association of that State, in a recent issue of the *Texas Courier-Record of Medicine*, may be of interest:

"1. In its organization and discipline it approximates a military standard and ignores all the clap-trap of freedom and equality. We have a board of censors who manage everything. We have a college of councilors who pay the expenses and do the work of the Association. The county societies hold charters from the State Association and are strictly subordinate to it, and their members are *ipso facta* members also of the State organization. We do business in a business-like way. We pay our secretary and our treasurer, and the latter gives a bond of $3,000 for the faithful performance of his duties. We have a regular ritual for the revision of the rolls—the roll of counsellors, the roll of county societies, the roll of correspondents, and the roll of officers. At the revisions every county society is called and must give an account of itself. If the account is not satisfactory it is referred to the board of censors for investigation, and if it proves incorrigible we take away its charter. Every councilor also is called and must be accounted for; if he has failed in payment of dues or attendance, without hesitation his name is taken from the roll and some one elected in his place. If he was old, revered, influential, and had given years of service to the Association, there still would be no hesitation. His head would go; in a word, we enforce our rules without respect of person, and our order of business is such that nothing is overlooked or neglected. We are not liberal, we are strict, rigid; we are not generous, can't afford to be generous; we are simply just. As far as possible—I fear it cannot be entirely done—we banish all wire pulling and office seeking.

2. Our Association and our county societies have something to do—have a good deal of important work to do—and they do it. There is no bond like this to hold men together. We have entrusted to us by the State the administration of the law to regulate the practice of medicine, and the health laws of the State. We have an examining board and a board of health in every county, as well as a State board of examiners and of health, all under the jurisdiction of the State Association. The county boards examine only those who have diplomas, and reject many of these too. The State board examines non-graduates. Each one of our county societies, large or small, are allowed two delegates. The delegates and councilors constitute the voting body of the Association, and a councilor must be a member of a county society. One main purpose we have in view is to maintain and magnify the usefulness of the county societies. Associations fail for various reasons. Greatest reason of all, they too often have no reason for existing. Next most important reason, lack of discipline, which lead to a third reason, neglect. Men are lazy, doctors especially. They won't work."

THE EFFECTS OF OVERFLOWS AND RICE CULTURE UPON THE PUBLIC HEALTH.—Dr. Richard H. Day, of Baton Rouge, ex-president of the Louisiana State Medical Society, and one of the Council of Section XIV. of the Ninth International Medical Congress, on Public and International Hygiene, has addressed the following communication to the President of the Congress in reference to some of the subjects proposed for discussion under section VI. of the Inquiries prepared for the Council, viz: The Influence of Agriculture on Public Health:

In accordance with the request of Dr. Joseph Jones, of New Orleans, La., President of the XIVth Section of the Ninth International Medical Congress, I will investigate the important questions embraced under Section VI. of the Inquiries prepared for the Council of this Section by Dr. Jones. In order to throw light upon these important questions, I have, upon consultation with the President of the XIVth Section, drawn up the following questions, relating chiefly to the effects of overflows and rice culture upon the public health; and in order to obtain reliable information I address the following interrogations to the medical men in those localities, and respectfully request, as early as possible, a full and specific answer to each question.

Question 1. How long have you been cognizant of the results of overflows of the Mississippi River and its tributaries upon the public health?

2. Have you closely observed the effects of said overflows upon the public health?

3. Have you generally or uniformly observed an increase of sickness immediately succeeding these overflows?

4. If so, what diseases? Their character and type?

5. What local or general conditions (including topography) have you noted, controlling or modifying the effects of overflows upon the public health?

6. Have you kept statistics of the number and dates of these overflows, and the cases of sickness (if any) resulting therefrom? If so please give these statistics.

7. What is your experience of the effects of rice culture upon the public health? and what the rate of death per 1,000 population before and since the commencement of rice culture?

8. Has malarial hæmaturia increased in frequency and severity during the past forty years? And is said increase due to the increased cultivation of rice in the Delta of the Mississippi River, or in other localities where rice is cultivated?

9. What effect has the camping and working of State prisoners in the low lands and swamps had upon said prisoners, held by Louisiana, Arkansas, Mississippi or other States so employing their prisoners.

10. How many deaths have been caused among State prisoners by malarial diseases, directly traceable to exposure to the malaria of the swamps?

11. Give facts bearing upon the relative effects of overflows and rice culture upon the colored and white races?

12. Relations of drinking water to the *health* of the inhabitants of rice, sugar, and cotton plantations? Effects of swamp water? effects of cistern, well and spring water, for drinking purposes?

13. The best means of protecting the health of the laborers and inhabitants in such localities?

The physicians of the valley of the Mississippi River and the rice regions of Arkansas, of Alabama, Georgia, North and South Carolina, Florida and Texas, are earnestly requested to furnish their replies to

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THE CHOLERA IN EUROPE.—Since the report published in the August number of the JOURNAL, cholera has continued to prevail to a greater or less extent in Italy and Austro-Hungary. The number of cases and mortality have shown a remarkable fluctuation, according to the reports sent to the press, but the disease has nowhere shown the virulence which distinguished it during the recent epidemics at Naples and Palermo, and seems now to be decidedly on the wane. On August 14 the returns from the infected districts were as follows: Barletta, 111 new cases, 41 deaths; Padua, 13 new cases, 3 deaths; Bologna, 11 new cases, 4 deaths; Ravenna, 29 new cases, 17 deaths; Vicenza, 14 new cases, 4 deaths; Brendola, 11 new cases, 3 deaths; and 19 new cases and 6 deaths elsewhere. The Austro-Hungarian reports were: Trieste, 14 new cases, 5 deaths; Fiume, 7 new cases, 3 deaths.

August 16.—Barletta, 60 new cases, 30 deaths; Ruvo di Puglia, 21 new cases, 7 deaths; Bologna, 13 new cases, 5 deaths; Padua, 11 new cases, 4 deaths; Treviso, 18 new cases, 10 deaths; Verona, 6 new cases, 2 deaths; Legnago, 12 new cases, 3 deaths; Venice, 7 new cases, 2 deaths: Bisceglia, 13 new cases, 2 deaths; Aquaviva, 14 new cases, 3 deaths; Trieste, 16 new cases, 3 deaths; Fiume, 3 new cases, no deaths.

August 25.—Barletta, 2 new cases, 3 deaths; Bisceglia, 7 new cases, 2 deaths; Ravenna, 3 new cases, 1 death; Forli, 5 new cases, 1 death; in all the other infected districts, 33 new cases and 10 deaths.

August 26.—Bisceglia, 9 new cases, 2 deaths; Ravenna, 7 new cases, 2 deaths; Bologna, 20 new cases, 14 deaths; Runopuglia, 15 new cases, 4 deaths; all the other infected districts, 33 new cases and 16 deaths.

The geographical area affected by cholera exhibits the usual capricious behaviour of this disease. Thus, it has been worst in Barletta, which is far away to the south, where the coast district between Monte Gargano and Brindisi was more or less affected. Thence it made a clear leap of 300 miles to Ravenna and Bologna: then turned northward, extending, though in a less virulent form, throughout Venetia, including the Island of Chioggia, and reaching as far east as Verona, and as far north as Castel Franco, at the foot of the Alps. It is said to be a noteworthy fact that the places most seriously threatened lie in the centre or on the edge of marshy plains formed by the alluvial deposits of rivers or the sifting of the sea, which always induce more or less malaria at this season of the year.

The recent history of cholera in Italy emphasizes very strikingly the importance of keeping the water-supply free from contamination whenever there is danger of an invasion of the disease, since the cholera-germ, in a very considerable proportion of instances, is undoubtedly conveyed into the system by contaminated drinking-water; and this is pointed out with great clearness by the Roman correspondent of the New York *Times* in a letter written during the past summer. During the epidemic in Palermo last year, when there were 200 deaths daily, the cholera, it seems, was confined almost entirely to persons who used water from certain contaminated sources, and on the other hand not one person who took the precaution of drinking nothing that had not been boiled, with the exception of wine bottled in districts where no cholera had appeared, and of eating no food that had not been thoroughly cooked took the disease. In Naples, where two years ago the cholera made such havoc, the people depended for water on wells sunk in the heart of the city and sure to be contaminated. Now that pure water has been brought into the city the cholera has not re-appeared, as it almost invariably does the year following its first outbreak.

Although Rome is distant only a few hours from Naples, only six cases of cholera occurred there at the time when Naples was ravaged, and all of them were imported. The safety of the city was and is undoubtedly due to the fact that on the appearance of the disease in Italy all the wells in Rome were sealed up by the authorities so that no one could obtain any water except from the aqueducts. These supply the city with an unlimited quantity of pure water brought from a distance, and in the light of what is now known of cholera it seems probable that it will never become epidemic in Rome unless one of the aqueducts should became contaminated—a contingency which is extremely improbable. This year it is said that there has not been a single case of the disease in that city.

SUBPREPUTIAL MEDICATION.—The editor of the *Medical World* reports in the July number of that journal the successful treatment of an obstinate case of acute inflammation of the urethra, involving particularly the bulbous portion and possibly the neck of the bladder, by means of topical applications beneath the prepuce on both sides of the frænum. The medication employed consisted of five grains of morphia rubbed up with half a drachm of lanolin, and a portion of the ointment about the size of a grain of wheat was used at each application. To this combination was added muriate of cocaine in such quantity that about a quarter of a grain would be applied each time. In commenting on this case the editor says: "Thus it seems that we have an efficient and easily managed mode of treatment for most of the local diseases of the genito-urinary apparatus. If begun promptly we believe that it will abort gonorrhœa. It will certainly relieve urethral and vesical irritability immediately, and the cure may be permanent when not dependent upon stone or other mechanical cause of irritation." In the August number of the *World* he states that further trials afford additional evidence of the efficacy of this method of treatment.

A CHICAGO IDEA.—A recent despatch from Chicago states that Frederick Baumann, an architect, has submitted to Commissioner of Health De Wolf a decidedly novel plan for disposing of the dead of that city. The inventor proposes to erect a monster edifice resembling the ancient Tower of Babel, acording to the popular conception of that renowned pile, which might be carried to any height desirable—from twenty-five to fifty stories high. The structure should be architecturally beautiful and classic in design, and built of solid masonry. Thousands of vaults could be arranged in this building, which could be sold or rented for single interments, or for the accommodation of families. The walls of each department should be of stone, with ornamental entrances, and the entire building hollow to the sky. At all times a huge fire would be kept in the basement of the central court, which would effectually destroy all the poisonous vapors and gases which might arise from the process of human decomposition.

All that is required to carry out this scheme, the enthusiastic inventor claims, is an act of incorporation and $500,000, and then Chicago could vie with Egypt in the magnificence and colossal character of its pyramidal mausoleum.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLIII. NEW YORK, OCTOBER, 1886. No. 4.

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ORIGINAL ARTICLES.

ARTICLE I.

SURGERY OF ILEO-CÆCAL CONNECTIONS, WITH NEW PROCESS FOR INTESTINAL COMMUNICATION. By J. M. F. GASTON, M. D., Atlanta, Georgia.

A contribution to the surgical pathology of the ileo-cæcal division of the intestinal canal is indicated by the lack of precise data in regard to this region.

The relations of the cæcum, with its vermiform appendage, to the valvular connection of the large and small intestines can only be properly appreciated by a recognition of their anatomical structure and their physiological functions.

This peculiar junction of tissues, so different in conformation, constitutes a dividing line between the secernent and excrementitious processes connected with alimentation. The lacteals and absorbents of the small intestines serve to appropriate the nutritious properties of the food, while the refuse materials, which are passed through the ileo-cæcal valve, undergo modifications in the cæcum, preparatory to the act of defecation; and, though they undergo transformations in their passage through the colon, upon the principle of endosmose and exosmose, there is perhaps no material addition to the components of the organization from this source.

The entrance of the ileum into the caput coli at nearly a right angle, by a valvular orifice, affords a species of hydraulic pressure to the contained mass, which assists the peristaltic action in carrying forward these effete materials into the capacious reservoir provided for them. There is a capacity for distention on the part of the cæcum with its vermiform appendage which especially adapts them for the depository of the fecal matter, where it undergoes a change in its constituents, of such a nature that physiologists have been led to infer a function of this structure, independent of serving as a diverticulum for the fecal accumulation.

The investigation of anatomists and physiologists, in regard to the appendix to the cæcum, shows that it exists in various forms, but is sometimes entirely absent. It is not found in other animals than man and the higher order of apes, but is supposed by some to be the relic of a subsidiary stomach in the lower types of creation. The appendix vermiformis springs from the lower part of the cæcum, communicating with its cavity by an opening, which sometimes has a fold of the mucous membrane in a valvular form; and the tube extending within it is usually occupied by mucus, but may be the receptacle of portions of food, while other solid matters occasionally become lodged in its closed extremity. It is generally four or five inches in length, and about one-fourth of an inch in diameter, with a blunt closed end, corresponding in appearance to a short, thick lumbricoid worm. There is also commonly attached to it a species of mesentery, which keeps it in position, yet its conformation and its relations to the cæcum vary greatly in different individuals.

The anomalies observed by Kraussold indicate that it may be abnormally long or short, open or closed with a valve, cylindrical, saccular, or bulbed, fixed or free, curved, or bent upon itself at a sharp angle, provided or not with a short mesentery, and sometimes entirely wanting. It has been often found the seat of ulceration or stricture from cicatrization somewhere in its course, the result of dysentery, typhoid fever, syphilis, and tuberculosis.

I am indebted for the following valuable information touching this matter to an article by James T. Whittaker, M. D., in the second volume of "Pepper's System of Medicine."

Two anatomical factors deserve especial emphasis in explanation of the frequent origin of disease in the vermiform appendix. One is the existence of the valvular fold of mucous membrane at or near the orifice of the tube in the cæcum, the clinical importance of which was first pointed out by Gerlach. This fold is most marked between the ages of three and twelve, and when pronounced narrows the orifice to one-half or one-third of the whole calibre of the tube. As a rule this fold, and the consequent diminution in the size of the orifice, are but little marked in the first years of life and in old age, which accounts for the relative infrequency of typhlitis at these periods of life.

The second mechanical factor is the deformity caused by the abnormal anatomical position of the organ, either as a congenital defect or as a pathological change. Matterstock quotes from Züngel, who observed in 59 cases in the Hamburg Hospital whole or partial obliteration 30 times, câtarrh and old fecal concretions 43 times, abnormal adhesions 12 times, and tubular ulceration (without perforation) 11 times. Toft claims, as the result of 300 personal investigations, that every third person between the ages of twenty and seventy showed the traces of present or past inflammation, and that actual ulceration existed in 5 per cent. of all bodies examined. Kraussold declares that this percentage is rather too low than too high, and adds that among his patients —who were, it should be stated, mostly phthisical—it was remarkable how extraordinarily often the whole vermiform appendix was the seat of an encroaching ulcer. In a number of cases cicatrices or cicatricial alterations were found where typhoid fever or dysentery had existed in the previous history.

Attention should at least be called to a last anatomical factor in explaining the frequency of ulceration and inflammation of this structure, in that its walls are so sparsely endowed with muscular tissue as to render it unable to empty itself of the virus or germs of disease which enter it from the comparatively stagnant reservoir, the cæcum. For it is the rule to discover in the vermiform appendix, in these cases, either fecal concretions or foreign bodies.

Haeckel and Buhl found concretions of meconium in a new-born child and fecal concretions; intestinal stones are far more frequently encountered than foreign bodies.

In 146 accurately observed adult cases recorded by Matterstock, fecal concretions were met with 63 times, foreign bodies 9 times, while in the other cases nothing could be discovered; and in 49 cases among children fecal concretions were discovered 27 times, foreign bodies 3 times, and nothing abnormal in the remaining cases.

Not infrequently a small foreign body acts as a centre of crystallization for feces, which become superimposed in successive layers. Hairs, as of the beard, sometimes officiate in this way. Among other foreign bodies met with in fatal cases of perforation, independently of feces, may be mentioned round-worms, cherry-stones, needles, fish-bones, gall-stones, a mass of ascarides, buttons, etc. As already intimated, supposed foreign bodies are often found on examination to be nothing else than intestinal concretions.

In cases of more acute course the lesions are often found centred about the vermiform appendix. The most various contortions, adhesions, or erosions, are observed in this structure; occasionally a constriction occludes the course of the tube, while the distal end is dilated into a condition of hydrops. It may be found perforated in one or in several places. The cicatrices or agglutinations of old attacks may be encountered; it may be cut in two or three pieces, or have been entirely absorbed. Pepper mentions the results of an autopsy made upon an old man, who died of vesical hemorrhage, in whom he found that there had, at some unknown previous time, been perforation of the appendix.

The lesions revealed upon the post-mortem table show, for the most part, the ordinary picture of perforative peritonitis, which is by far the most frequent cause of death. The peritoneum in the vicinity of the perforation is found hyperæmic, swollen, necrosed, covered with flakes of soft fibrin, or partially agglutinated to contiguous structures. The wall of the bowel is very much thickened by catarrhal swelling of its mucosa, proliferation of its submucous tissue; in more chronic cases, œdema of all its coats or suppuration processes. Not infrequently the mucous tissue is the seat of extensive ulceration, which may involve other structures of the gut, or form an abscess, even as large as a man's head, in its immediate vicinity. The abscess may remain strictly localized or may wander to discharge itself into the ileum, cæcum, duodenum, and diaphragm, with resultant empyema; into the colon, bladder, in which case the fecal concretion becomes the nucleus for a vesical stone; into the acetabulum, inferior vena cava, or peritoneal cavity, the most frequent eventuality.

Perhaps the most efficient cause of the condition is a local paresis of the muscular tissue of the cæcum, produced by the irritation of intestinal catarrh, of disease virus, of a fecal concretion, or a foreign body—an irritation which may induce first a spasmodic action, and subsequently, as a result, a partial paralysis or a paresis. The same condition may be brought about more directly by the presence of a centre of irritation—viz.: by reflex inhibition of innervation. Accumulation and impaction of feces must then necessarily ensue, and it is highly probable that this accumulation occurs in this way as a result more frequently than as a cause of the condition. Most cases are perhaps due to the presence in the cæcum of the germs or virus of disease taken with the food or drink.

The various forms of inflammation which are characterized by Whittaker as typhlitis, perityphlitis, and paratyphlitis, involve the vermiform appendage only, the tissues of the cæcum, or the surrounding textures, according to the nature of the cause or aggravating concomitants which lead to the extension of this condition of the organism.

In the second volume of Holmes's Surgery, under the heading of abdominal abscesses, it is stated that most commonly the mischief which produces fecal abscesses, independent of cancer, arises near the ileo-cæcal valve; ulceration of the appendix is one of the most frequent causes. And in the revision J. Henry C. Simes, M.D., tells us that the cæcum and vermiform process are often the seat of diseases which lead to circumscribed peritonitis.

The connective tissue, also, which lies behind the cæcum, over the iliac fascia, is sometimes the seat of inflammation and abscess.

The two first-named processes are, for the most part, from the outset intra-peritoneal, while phlegmonous inflammation in the areolar tissue, behind the cæcum, is first retro-peritoneal, but frequently involves the peritoneum, and may secondarily extend to the intestinal wall. These inflammatory processes are therefore anatomically distinct in their position, and they also possess from the outset a different significance and importance; nevertheless, they present in their symptoms so much uniformity that the clinical distinction between them is, in the majority of cases, impossible. We must frequently be satisfied with recognizing the inflammation in the right iliac fossa, without distinguishing whether the cæcum, the vermiform process, or the retro-peritoneal areolar tissue be the starting point. In many cases, furthermore, the distinction is impossible, it being at the same time, however, a matter of no practical importance, owing to the fact that the forms of inflammation mentioned pass into one another, so that by an ulceration of the vermiform process the cæcum becomes involved.

It is found, very generally, that in typhoid or enteric fever there is more or less sensitiveness on pressure in the ileo-cæcal region, resulting from a subacute inflammation of the cæcum and its vermiform appendage. The uniformity with which this local tenderness is observed, and is accompanied or followed by more or less sensitiveness, with tympanic distension of the abdomen, cannot be accounted for by the inflammation of the glands of Peyer and Brunner, which is an almost invariable sequel of typhoid fever. We must, then, seek for an explanation of the symptoms of this disease in the disorder of the ileo-cæcal connection. In like manner that the icterose typho-malarial hæmaturia, and perhaps yellow fever, originate in catarrhal inflammation of the duodenal mucosa, it may be that typhoid fever is associated with or springs from an inflammatory process set up in the cæcum. The causative or primordial element which operates for the development of either of these disorders cannot be definitely ascertained; and the unsatisfactory hypothesis of sewer-gas as the origin of typhoid fever is set aside by the fact of the occurrence of this affection on the highest and purest elevations of our mountain regions, where no such contamination exists. Whatever may be the predisposing cause of typhoid fever, there is a notable depression of the nervous system very early in the train of disorders which ushers it in, and we may infer that the impression of the morbific agent is primarily upon the organic nerve centres. By the intimate relation of the structures entering into the cæcum and the ileo-cæcal valve with the great sympathetic nerve, we may make some progress towards elucidating the constant factor of a subacute inflammation of this region in typhoid fever. I cannot acquiesce in that view of pathologists which attributes the degeneration of the cæcum and appendix to a low state of vitality in its tissues, but, on the contrary, hold that they are highly vitalized, and that it is from being overtaxed in the performance of functions essential to the discharge of the excrementitious deposits that they are so subject to disease.

The arrangement of the muscular fibres and contractile tissue in the composition of the valve of Bauhin is generally held to oppose an effectual barrier to any retrograde movement of the contents of the large intestine into the small intestine, in the normal condition of these parts. But there is no doubt in regard to such a relaxation of this structure, or modification in its organic constituents, under certain pathological conditions, as to admit of the passage of stercoraceous matter by a reversed action through the ileo-cæcal valve. It has been demonstrated likewise, on the cadaver, that injections by way of the rectum may be forced backwards into the ileum, and a paper on "The Permeability of the Entire Alimentary Canal," by Dr. Robert Battey, presented to the American Medical Association in 1878, refers to cases of Dr. T. S. Mitchell, of Hamilton, Ga., illustrating the practicability of forcing fluid from the colon, through the ileo-cæcal valve, in the living subject. It has been claimed recently by Dr. H. Illoway, in the January number of the *American Journal of Medical Science* for the present year, that enemata may be employed with the force pump, so as to overcome this obstacle in the treatment of intussusception involving the ileum, and three cases are given illustrating the good effects of this procedure. Yet the reader will not find the proof of the existence of the impediment above the ileo-cæcal valve so conclusive as represented by the author, and hence this mode of applying enemata may not have accomplished anything more than has been frequently gained by the ordinary means of injections for obstructions in the large intestine. It is evident that all the force can be applied by a large metallic or rubber-bulb syringe compatible with the capacity for resistance on the part of the walls of the intestinal canal, and the resort to a force pump is not therefore commendable in such cases of doubtful diagnosis.

In the normal performance of its functions, the excrementitious mass undergoes certain modifications, and is urged onward by the contraction of the cæcal walls, and traverses the tract of the colon under the impress of a progressive contraction extending along its fibres, with a similar impulse to the materials within its cavity as is communicated by pressure of the hand and fingers when forcing forward the minced meat in the prepared intestinal cases for sausages.

It, however, occurs at times that this process becomes disturbed or interrupted in such a way as to lead to disorder and disease in the structure of their tissues, or in those adjacent to this ileo-cæcal connection.

This may be self-generating and idiopathic, or may be caused by influences from within or outside the walls of this peculiar organization. Inflammation may be developed in the immediate surroundings of the ileo-cæcal valve, in the adjacent tissues of the ileum, in the cæcum, or in the vermiform appendage; and this may progress in an acute or chronic form, according to the origin and progressive degeneration of this vitiated process.

Paget "would not call any process inflammation in which there is neither exudation of lymph nor a deterioration of a proper tissue of the affected part;" but this excludes resolution as a result of inflammatory action, and there can be no question as to the subsidence of the heat, swelling, pain, and redness, which characterize the inflammatory process, without effusion in some cases. It is claimed by this distinguished pathologist that one of the constituents of the inflammatory process is a defect in the nutrition of the proper substance of the inflamed part, yet, while the inflamed structure itself suffers deterioration, there is a production of material with the lowest grades of organization, and that it is not capable of development, but tends rather to degeneration, so long as the inflammation lasts. He holds that there is no increased exercise of vitality, but rather a diminished activity in the part.

I agree with Agnew in considering inflammation as a hypernutrition, and consider that it is an effort of nature to restore the equilibrium of the circulation which has been interrupted by a local morbific impression from the causative agent. In other words, the inflammatory process is an attempt at recuperation of the injured part, and within certain limits that it is salutary; but when it transcends the powers and capacities of the organism, I infer that, from the undue excitation and over-action of this extraordinary impulse, there is a breaking down of the forces of the organization, which leads to disintegration and death of the structures involved. I understand by the development of inflammation in the tissues of the ileo-cæcal region that nature is resenting an insult to the components of this organism, and when it triumphs over the difficulties encountered resolution ensues; but if it fails there is ulceration and perforation, leading to abscesses and peritonitis.

To illustrate the important vital connection of the ileo-cæcal structure with the general organism, I may refer to the fatal results of the resection of this division of the intestinal canal in four dogs, reported in a paper on "Obscure Impediments of the Intestinal Canal" in this journal, while resection of a portion of the ileum was followed by complete restoration of the intestine.

These deaths occurred in less than twenty-four hours, indicating that they were the effect of shock, which can only be explained upon the basis of a most intimate link of association of this structure with the organic nervous system.

Being therefore convinced of the traumatic re-action on the part of the ileo-cæcal division of the intestines, in its primary manifestation of inflammation as a consequence of injuries or morbific impressions, I would urge a prompt recourse to curative measures.

The practice of Dr. Willard Parker in resorting to early incision of tumors in the ileo-cæcal region has exercised a great influence upon the operative procedure in typhlitis and kindred affections in latter years, and it becomes us to inquire into the expediency of adopting the principle involved in this course as to the general management of the disorders implicating the textures of the ileo-cæcal connections. The consideration of paramount importance is the effect of operative interference upon the inflammatory action in these parts. It has been inculcated by some surgeons that, even in the ordinary phlegmonous inflammation, prompt incision of the inflamed tissues upon the first indication of the formation of pus secures the most satisfactory result. But, when it is understood that the modification of the capillaries and cellular tissue growing out of the progressive steps of this process must terminate either by resolution or suppuration, it behooves us to look closely to the traumatic influence of such proceeding.

In the series of cases reported by Dr. Henry B. Sands for which incisions of the iliac tumor were practiced, it is noted that in one no abscess could be discovered on the ninth day, although the knife was carried through the fascia transversalis and the hypodermic needle thrust in various directions in the hope of finding pus. After the operation the patient grew worse and his life was despaired of, when, eleven days later, an abscess broke, and discharged its contents through the wound. He remarks that perhaps in this instance the operation was serviceable, by dividing dense structures which might have offered resistance to the progress of matter toward the external surface.

Usually a perityphlitic abscess remains of moderate size until about the end of the second week, and by deferring an operation until it is ripe we shall find the deeper textures consolidated and agglutinated by plastic lymph, and therefore less liable to be infiltrated by the fetid discharges which, after incision, often cause more or less sloughing of the margins of the wound. On the other hand, the danger that the abscess, if unrelieved, may rupture into the peritoneal sac must not be forgotten. Everything depends on an exact diagnosis, and on an early recognition and treatment of existing abscess, and Dr. Sands suggests a more frequent employment of the aspirator as affording the most reliable test at our command for purposes of diagnosis. The site of an abscess being thus determined, he proceeds in the manner recommended by Dr. Parker. An incision several inches in length, and usually parallel with Poupart's ligament, being made over the most prominent part of the tumor, through the skin and subcutaneous fat, the deeper layers were divided until the abscess was reached, or until the fascia transversalis came into view. If fluctuation then became evident, the abscess was immediately opened; otherwise the fascia was penetrated in various directions by means of a hypodermic syringe until the seat of the abscess was discovered, when the operation was completed by entering a narrow bistoury alongside of the needle. This method of operation, wherein the aponeurotic and muscular layers composing the abdominal wall are successively and cautiously divided, is considered preferable to the plan of plunging a bistoury directly into the abscess and then enlarging the wound as the knife is withdrawn. An incision of two inches will afford ample space, and the wound should grow narrower as it increases in depth. The direct opening into the abscess need not be larger than will readily admit the forefinger for detecting the presence of foreign bodies in fecal abscesses.

In a communication from Dr. William A. Byrd, of Quincy, Ill., he remarks, touching the paper of Dr. Sands, that in it he does not commit himself fully to an early or late operation, but seems to prefer waiting awhile. "I am decidedly inclined to think many more lives will be saved by operating early, as is the case where there is strangulated hernia. Dr. Sands may be of the same opinion now. The inflammation, with the co-incident matting together of loops of the bowel, which so often occurs, certainly does not diminish the dangers, and if the pus finds an outlet in other directions than into the bowel the patient and physician may be lulled into a fancied security that only ends in death. Of course I would not advise an indiscriminate resort to the knife, as the case may be one of fecal impaction in the cæcum, a condition sometimes very hard to differentiate from perityphlitis. But even if it should be a case of fecal impaction, and does not give way to small doses of opium properly administered, with fluid diet, as practiced by Mr. Hugh Owen Thomas, of Liverpool, it would be much better treated by cutting down upon the mass and letting it out through an artificial anus, which is so easily cured if it does not heal when let alone, than to allow it to remain, and by its irritating presence to complicate matters by causing ulceration and perforation, or a perityphlitic abscess."

Dr. Byrd states, however, that, "in this city, but a few years ago, a physician suffered near unto death from fecal impaction in the cæcum; he implored me to cut down and relieve him; as he had seen several of my entorrhorrhaphies and operations for artificial anus, all getting well, he had but little fear. I refused, and he made a good but slow recovery."

Among the pathological changes resulting from different morbific impressions upon the appendix vermiformis, one of a very remarkable nature appears in the *Canada Medical and Surgical Journal* of January, 1886.

Dr. McDonnell presented, at a stated meeting of the Medico-Chirurgical Society of Montreal, on December 4th, 1885, a specimen in which the appendix had formed a communication with the ileum about an inch from the valve. A probe could be passed from the cæcum through the appendix into the ileum. It was thought that the attachment to, and communication with, the ileum was due to a concretion which had previously existed in the appendix and had caused adhesive inflammation; as the specimen was taken from a dissection room subject, there was no history.

It is much to be regretted that nothing could be learned in regard to the influence of this abnormal relation of the parts upon the health of the individual, as there would necessarily be a regurgitation of fecal matter to some extent into the small intestines, which ordinarily is completely shut off from it by the valve of Bauhin. This accidental connection, which, so far as known, is the only instance of such an occurrence, suggests the probability of establishing a direct communication of the small intestine with the large intestine, at two convenient points on either side of the valve, in cases of serious disease of this region, involving the permeability of the ileo-cæcal valve. The function appertaining to this structure could not, of course, be maintained by such an attachment and opening of a passage between these canals, yet it would prove the most favorable relief to obstruction of the natural valvular entrance of the ileum into the colon, and might remedy to a great extent the grave results of intussusception, which is so frequently observed in this locality, while it would doubtless prolong life in cases of carcinoma of this region, which not unfrequently is presented.

Partial excision of the ileo-cæcal connection has been resorted to successfully; but there is no instance on record, within the knowledge of the writer, in which a resection of the cæcum with its vermiform appendage, including the valve and adjacent portion of the ileum with the re-union of the ileum and colon, has been attended with a satisfactory result. Should it be found practicable to attach the ileum and colon together with an opening between them, so that the contents of the small intestine may pass directly into the large intestine, and thus leave the ileo-cæcal valve out of the line of communication, it is a reasonable presumption that eventually some operative procedure would be tolerated for the radical correction of the disorders of this part.

A modification in the organism by degeneration of its structure from disuse would, in accordance with what is generally observed as a result of inaction, lower the vitality and sensibility to impressions of a traumatic nature to such an extent that even the extirpation of the entire ileo-cæcal connections might be subsequently effected without that shock to the nervous system which attends this operation under other circumstances.

It is a matter of common observation that most acute inflammatory processes are set up in the cæcum and the appendix vermiformis, which extend to the surrounding tissues, so as to develop abcesses, which may point externally or may permeate other structures, and eventually afford relief by a purulent discharge in one or another direction. But there are instances of obstructive depositions from inflammatory degeneration or from malignant disease which do not terminate in this favorable manner, and require operative procedure in one or another stage of their progress, so that it is of the utmost importance to secure a practicable channel of passage for the contents of the intestines.

Such obstruction as occurs from foreign bodies or concretions, blocking up the way through the ileo-cæcal valve, has been relieved by incising the ileum and suturing the wound in its walls; but when thus there exists an organic stenosis of this gateway by which the refuse alimentary mass seeks a discharge into its proper depository no measure of this kind can avail; and we must try to discover a process by which the impediment can be removed compatible with the safety of the patient. That adhesion of the peritoneal surfaces of the small and large inestines, with a communication between these canals, can be effected by a single operation, while the external abdominal wound may be immediately closed, will be apparent upon a brief description of my proposed process.

I have demonstrated upon inferior animals the practicability of a circular row of stitches on the same principle as the shoemaker's suture, with a needle at each extremity of the thread, leaving at the initial point a loop, and having sufficient length of thread to be tied after making the terminal stitch. The inclosed central tissue of each wall being in juxtaposition, and being strangulated by the suture, separation of this segment must occur, leaving an opening between the intestinal channels, while the approximation of their walls exteriorly secures a firm union by adhesive inflammation. The suture and the detached circular or oval segment of the intestinal walls must pass away by the colon. A portion of the intestinal wall, whose diameter is somewhat less than the lumen of the ileum, should be inclosed by this suture, and may be of the oval form, whose longest diameter corresponds to the axis of the canal This opening should accomplish a permanent communication from the ileum into the colon for the passage of the excrementitious contents.

This paper will be better understood with a practical demonstration of the process upon two fingers of a cassimere glove, showing the union of the surfaces in a completed application of the suture, and the mode of passing the needles in opposite directions, with stitches of the same length corresponding to each other, which, when tightened, draw the tissues closely together, and at the same time constrict each portion included in the several stitches, so as to produce strangulation and the consequent separation of the entire inclosed segment, which eventually drops with the stitches into the lower limb of the intestinal canal, to be carried off with its contents.

The writer is convinced from his experience in suturing the walls of the intestinal canal that there can be no practical difficulty in the accomplishment of this suture; and is satisfied that it proves effective in causing the separation of the included segment, leading also to the union by adhesive inflammation of the exterior surfaces of the intestinal walls.

But the effect on the digestive apparatus is problematical. A question requiring consideration is the final result in the possibility of the gases developed by the excrementitious process ascending along the channel of the intestine and perhaps even reaching the stomach. It is an unmistakable fact that the intestinal gases move upwards as well as downwards within the colon, and that they may descend even into the rectum and, their escape being impeded by the sphincter ani, a reversed movement ensue. The audible passage of flatus within the large intestine, which is remarked especially in women who lace, is doubtless due to more or less constriction of the arch of the colon, and the return of the gaseous emanations towards the caput coli as the fecal mass is urged onwards. If it were simply manifested by bad breath, the sulphuretted hydrogen gas which is generated in the large intestine would be quite offensive, but there is ground for apprehension as to its unfavorable influence upon the general health of the individual, and only the test of experiment on the human subject can solve this doubt in regard to the consequence of dispensing with the valve. Some have claimed that the glands of Peyer, in the lower portion of the ileum, generate the peculiar odor of the excrement; but we have the high authority of Littré in favor of the view that this, in common with the other properties which characterize fecal matter, pertains to the cæcum. Under the head of "Excrement" in his "Diccionaire de Medecine" this is stated as follows: "C'est dans le cæcum que la résidu des substances alimentaires prend tous les caractéres des matièries fécales; celles-ci, examinées dans les divèrses parties du gros intestine, sont partout les memes."

Should this odoriferous quality be imparted entirely by the cæcum and vermiform appendix, the excision of this portion of the intestinal canal may remove the source of this offensive odor; and, as a consequence, the apprehension of any unpleasant effects from the direct communication of the ileum with the colon becomes groundless.

There must, however, still remain the liability of regurgitation of fecal matter in any reversed movement of the contents of the large intestine, but this should not occur in the normal performance of the functions of the alimentary canal, so that a reasonable calculation may be made in favor of the onward progress of the excrementitious mass after reaching the colon.

The causes of stercoraceous vomiting are for the most part connected with impediments to the peristaltic movement from obstruction of the intestinal canal, and in the removal of the chief seat of such obstructions at the ileo-cæcal valve much has been attained towards their prevention.

In any event, if we should regard this procedure as a choice of evils, it may be resorted to when there exists serious disorder of this ileo-cæcal connection. Of course, this can only be used in connection with laparotomy; but in cases of stenosis of the pylorus, duodenum, or other portions of the alimentary canal this process for restoring communication may be available, without resorting to the hazardous proceeding of resection in the first instance.

The attachment of the stomach to the duodenum, of one portion of the small or large intestine to another, and of the ileum to the colon as herein proposed, may cut off diseased structures from the circuit, and thus afford a reasonable prospect of a good result.

ARTICLE II.

PUERPERAL ECLAMPSIA AND VERATRUM VIRIDE, WITH A CASE.* By N .L. GUICE, M. D., Fayette, Miss.

December 10, 1885, I was engaged by her husband to attend Mrs. B., a primipara, aged 20, who expected to be confined within two weeks. I then obtained a specimen of her urine, which was found to be normal. From this time I heard nothing definite of the case until January 16th, when the husband reported that her lower extremities were very œdematous, that she could not sleep because of "pain in the head," and that she complained of other symptoms which, in connection with those named, induced me to suspect nephritis. A second specimen of urine was then procured, and this was found to contain a very large quantity of albumen.

I saw Mrs. B. at 3 P. M. the same day, when her condition was as follows: She now complains of acute and unceasing pain in the head, which has existed for several days and is more intense in the right temporal and parietal regions.

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*Written for the Mississippi State Medical Association.

There is some photophobia, with morbid brightness and injection of the sclerotic, and excessive lachrymation. There is general tenderness of the scalp, though this is more pronounced on the right side. She has had irregular and transient attacks of indigestion. Every part of the body presents œdema, but this symptom is most prominent in the face and lower extremities; she complains of a sense of nervousness and general uneasiness which she is unable to describe; the urine is passed at short intervals, and the quantity is thought by her to be normal. Pulse and temperature normal.

Mrs. B. is of pronounced nervo-sanguine temperament, presents a physique of typical elegance, is strongly emotional, and furnishes a history of several attacks of convulsions supervening upon menstrual obstruction prior to marriage.

Treatment commenced with 30 grains of compound powder of jalap; I also prescribed 25 drops of the fluid extract of jabarondi every two hours, with chloral hydrate at night.

January 17th, 10 A. M. Patient has no pain in head or scalp this morning, but the soreness of the latter is still marked. No abatement of œdema. She slept well last night from 15 grains of chloral hydrate, and says she feels much better. Bowels have acted well from the purgative, and the quantity of urine is increased, while the proportion of albumen is greatly lessened. Compound jalap powder repeated, and jabarondi continued.

January 18th, 10 A. M. Patient is now having incipient labor pains since 4 A. M. She slept well last night under chloral. Œdema of lower extremities increased, but that of face and upper extremities diminished. Soreness of scalp scarcely perceptible. The quantity of urine voided is more than sufficient, and the albumen is still further diminished. A vaginal examination at 12 M. revealed a rigid os uteri and perineum; vertex presentation.

January 19th, 4 A.M. It is now twenty-four hours since the inception of labor, but, owing to extreme rigidity of the os, progress has been slow. This obstruction is now, however, partially overcome by the action of morphia, chloral hydrate, chloroform, and Barnes' dilators, which have been successively employed in the order mentioned. The labor has thus far been well borne by the patient, and, aside from a noticeable (but not alarming) increase of pulse-rate, her condition is satisfactory.

At 4.20 A. M., while walking the floor, supported by her husband, Mrs. B. was suddenly, and without premonition, seized with a very severe convulsion, upon the subsidence of which I gave hypodermically 8 drops of Norwood's tincture of veratrum viride. I also ruptured the membranes to expedite the labor, and gave chloroform freely. The pulse is now 124. At 5.05 another convulsion ensued, which was followed by another hypodermic injection (this time 8 minims) of veratrum.

5.35. Pulse 90 under chloroform.

6.15. Pulse 64. Three minims of veratrum. At 7.30, the pulse being 55, the chloroform was withdrawn.

Patient now perfectly intelligent, with no coma and no indication of spasm. The pulse was reduced to fifty by the last hypodermic of veratrum, and this dose (*m.* iij) was repeated whenever it rose to fifty-five.

12.30 P. M. Patient has now undergone a most furious labor for the last seven hours, and is exhibiting some evidences of failing strength. Meanwhile, the veratrum has repressed the convulsions, with the exception of two or three slight seizures, occurring within the last thirty minutes, which were noticeable only in slight contraction of the muscles of the face and neck. The veratrum has been given so as to hold the pulse at or about fifty, and chloroform used at intervals to afford the patient rest from the violence of the pains.

It was now decided, in counsel, to terminate the uneven struggle, and instrumental delivery followed after much difficulty, owing to the still-existing rigidity of the perineum and the large size of the fœtus (a male), which was delivered dead. The perineum was lacerated in spite of the greatest care. Convalescence was without noteworthy event.

The foregoing history shows that the urine of Mrs. B. was examined on December 10th, and found to be normal. Then, after an interval of thirty-six days, it was again examined, and found to contain a very large proportion of albumen. Treatment designed to correct the nephritis was then instituted, but the early inception of labor served to prevent the elimination of this ugly complication. If the urine of this patient had been examined every seven to ten days the result would have been the early detection of the nephritis and the probable prevention of eclampsia; and it is due to myself to say that these examinations would have been made, but for the fact that the best calculation from the available evidence (which was entirely credible) established the conclusion that the gestation would terminate within ten days from the time of the first analysis, which was made December 10th. In truth, I am convinced that gestation in this instance was protracted to the end of the tenth month.

The case of Mrs. B. is interesting:

1. As forcibly exhibiting the importance of making frequent and repeated examinations of the urine of pregnant women.

2. As furnishing another instance of the value of veratrum viride in puerperal eclampsia.

That it is our duty to make frequent examinations of the urine of pregnant women, particularly in the seventh, eighth, and ninth months of gestation, is now an axiom in obstetric medicine. Whatever may be the pathological condition leading to the development of puerperal eclampsia, the fact remains that, as Lusk says, "in the overwhelming proportion of cases, uræmia is the fountain and origin of the evil, the term *uræmia* signifying, of course, the action, not of a single constituent of the urine, but of all the excrementitious principles, combined with that of increased arterial tension."

The urine, with rare exceptions, furnishes the evidence of the existence of this dangerous disease, one the presence of which cannot be too early recognized. Timely recognition of the disease, followed by judicious treatment, will often result in such amelioration (if not in entire relief) as will ward off the threatened eclampsia, and thus prevent much suffering and save many women and children from untimely death. The mortality from eclampsia is still frightfully large, notwithstanding recent advances in our knowledge of the pathology and treatment of the disease. While it is freely admitted that eclampsia does not develop in all cases of nephritis, the fact remains that the occurrence of the former without the presence of the latter is extremely rare.

The case of Mrs. B. also supplies another instance of the admirable control of veratrum viride over puerperal eclampsia. This valuable therapeutic agent has in no instance, in my hands (and I have given it in quite a number of cases), failed to control the convulsions either in the mildest or most aggravated cases. It has proved equally efficacious in an advanced and in the incipient stage of the disease, and always without inducing nausea or other unpleasant effect. Mrs. B. possessed the typical sanguine or nervous temperament, and furnished a history of previous attacks of convulsions from menstrual obstruction. Yet in her case we find the veratrum arresting, and holding in abeyance, puerperal eclampsia for seven or eight hours in the midst of the constantly recurring pain of active labor.

In a paper previously presented to this Association (Volume of Transactions for 1882) *admirable* is the word used by me in picturing the action of veratrum viride in eclampsia, because "admirable" is most descriptive of the results attending its use. *And I will express the conviction that a fair and full test of the powers of this agent, by the profession, would surely result in placing it at the head of the list of remedies of recognized utility in this formidable disease.*

Norwood's veratrum should be used, *and in all cases given hypodermically.* The commencing dose should be eight to ten minims.* This dose may be repeated in from thirty to sixty minutes if convulsions continue and the pulse remains much above sixty. The pulse being the guide in its administration, the veratrum should be given in suitable doses and at proper intervals to effect its speedy reduction to about fifty or sixty. Subsequently it will be necessary to administer about three minims when the pulse is found to have risen as much as five beats from the desired standard. I have known cases of eclampsia to yield satisfactorily to the veratrum under an impression only sufficient to reduce the pulse to seventy or eighty. The judgment of the physician will in all cases be used in determining the force of the impression needed to repress the convulsions in any given case. As before mentioned, I have never witnessed nausea or other unpleasant effects from the veratrum given hypodermically.

In beginning the treatment, chloroform should be given by inhalation until the system is brought under the influence of the veratrum; or, a quarter of a grain of morphia may be given with the first dose. In fact, both these agents may be used, at the discretion of the medical attendant, at this stage.

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*When drops are used instead of minims, it should be remembered that it requires about 100 drops of this preparation to make 60 minims.

Finally, I would offer the following conclusions based upon experience covering several cases of eclampsia, and representing the different grades of the affection as respects severity.*

1. When veratrum is given hypodermically in such quantities as will reduce the pulse as low as fifty to seventy per minute, the convulsive paroxysms are arrested.

2. So long as this effect is maintained by the judicious use of the remedy, the convulsions are held in abeyance.

3. The convulsions being thus within the control of the attendant, time is given in cases wherein the labor is progressing (*eclampsia parturientium*) for its safe completion by the natural forces.

4. Where eclampsia has supervened upon gestation at any period of its progress (*eclampsia gravidarum*), the use of the veratrum will, by suspending the convulsions, give abundant time for the induction of labor by gentle and safe means, and for its completion by the natural forces, thus obviating the necessity for speedy and forcible delivery and the dangers attending such procedure.

5. In properly selected cases of *eclampsia gravidarum* the veratrum may be used to suspend the convulsions pending the prosecution of treatment for the existing nephritis, which, resulting favorably, would prevent the sacrifice of the fœtus by securing the completion of the term of gestation.

6. Veratrum viride is easily and safely administered, and given hypodermically has never, in my hands, caused nausea or other unpleasant effect. It does not produce stupor or otherwise interfere with the intelligence of the patient, and it thus enables the attendant to form a correct estimate of the actual state and progress of the disease.

7. It is believed that if the profession will *fairly* and *fully* test the powers of veratrum viride in puerperal eclampsia it will be found to possess marked advantages over all other remedies now in use for that affection.

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ORIGINAL TRANSLATIONS.

A CASE OF VAGINAL HYSTERECTOMY, ILLUSTRATING THE INDICATIONS FOR THE PROCEDURE AND MODE OF OPERATING. By L. G. RICHELOT. Translated from the *Union Médicale* by H. McS. GAMBLE, M.D, Moorefield, W. Va.

Total ablation of the uterus through the vagina, in ill-repute, owing to the uncertain and contradictory results of foreign surgery, has required a long time to secure its admission into France. It is accepted here to-day, but we are still divided upon one point—that is, the frequency and the nature of its indications.

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*These are conclusions formulated and published by me in 1882, now modified to cover additional experience with and confidence in the veratrum.

Almost always it is a cancer that has determined a radical intervention. But all cancers of the uterus are not alike; there are some, perhaps, for which partial resection below the culs-de-sac may suffice, or supra-vaginal amputation of the neck. To simply touch upon a discussion into which I do not wish to enter at this time, I confine myself to summing up in a few words, after the study I have given them, the indications of vaginal hysterectomy against uterine epithelioma.

The operation is legitimate in primary cancers of the body of the organ; in those which invade the mucous membrane in its entirety, or which appear limited to the internal aspect of the neck, without one being able to foresee, at the moment of operating, whether the mucous membrane is diseased beyond the internal orifice; in those which have begun upon the external surface of the neck, but which are yet confined to the posterior vaginal cul-de-sac in such a way that it is difficult to cut far from the disease without involving the peritoneum.

What ought to be done if the tumor can be largely removed by a partial sub-peritoneal amputation? According to an opinion recently emitted, every cancer commencing by the vaginal mucous membrane of the neck extends to the culs-de-sac, the peri-uterine cellular tissue, the broad ligaments, and the bas-fond of the bladder before invading the fundus of the uterus; hence, either the tumor is amenable to an operation, and supra-vaginal amputation suffices, or the latter is no longer possible, and hysterectomy itself is rendered useless. On the other hand, relapse always takes place in the annexes or in the vaginal wall, never in the body left in its place; hence, total ablation does not protect against relapse any better than partial resection, and, moreover, statistics prove it.

This question is worth being discussed, for it is not as well defined as some would have us believe. If the authors to whom I allude believed less in the extreme gravity of vaginal hysterectomy, perhaps they would admit that we ought to perform, here as elsewhere, as large an amputation as possible, and that in removing the uterus in its totality we destroy a goodly number of lymphatic vessels emanating from the neck and creeping over the borders of the organ, vessels which are respected by an incomplete cuneiform resection, and which may be the origin of a repullulation. Statistics do not give a longer survival after total ablation, I admit; but an argument which rests upon fictitious averages and collections of incongruous facts is always very precarious. The future alone will decide where the truth is to be found.

In the case that I present to you to-day, it is a question, gentlemen, of an exceptional indication of vaginal hysterectomy, for I do not know that the operation has ever been done for a case of *uterine retroflexion*. I maintain that the gravest forms alone of this affection can legitimize such a radical intervention, and I wish to say that it does not enter into my mind to propose hysterectomy for deviations which, if not benign, are at least tolerable. But, with this reservation, it must be admitted that certain retroflexions mock our efforts, render life extremely painful, or compromise it; and if, moreover, you credit the reasons which I shall soon give you in favor of the relative innocuousness of the operation, you will perhaps conclude that my conduct has not been rash, and that it may be imitated.

Marie M—— is a woman, twenty-six years of age, whom I find at the Hospital Saint Antoine, upon resuming duty in the month of April, 1886. She is pale, exsanguine, and urgently demands an operation which might deliver her from her pains and her losses.

The first grave hemorrhage supervened at the age of fourteen years, the first pregnancy two years later. She has had five children, and has nursed them; but the menses persisted abundantly throughout the whole period of lactation. Two years ago, after her last confinement, she was admitted to the Hospital Tenon, suffering with vomitings, pains, emaciation, and wastings. She was subjected to subcutaneous injections of ergotine for three months without deriving any benefit from them.

In February, 1885, she entered the Hospital Tenon again for extremely abundant inter-menstrual hemorrhages. In May the flow of blood between the menses is arrested, then recurs continually after the 15th of July. In September, at the Hospital Saint Antoine, a new and brief intermission. Three hemorrhages in October, with acute pains, insomnia, and urinary troubles. The latter have gone on increasing for the last two years; the quantity of urine, very much diminished, never reaches a litre. I am assured that there have been some days of complete anuria. The patient presented at the time of my first examination some of the phenomena of uræmia—vomiting, cephalalgia, and visual disorders. A fibroma of the posterior wall had been diagnosed; injections of ergotine had been uselessly given, and, I know not why, attempts made at dilation of the neck; after which the pains became more violent and the hemorrhages more severe.

In the month of April, 1886, I find Marie M—— extremely anæmic, complexion waxy, face emaciated. She drags herself along with difficulty; the pains are continual, and are exasperated upon the approach of the hemorrhages. Examination leaves no doubt about the existence of uterine retroflexion. The body of the uterus is not felt at the hypogastrium; it is moderately voluminous, and forms a tumor which fills the posterior vaginal cul-de-sac; the neck is in its place, and presents no important alterations. The organ, in its *ensemble*, is sufficiently mobile, and nothing indicates that it is fixed by adhesions.

It is difficult to understand how a simple uterine deviation, without notable hypertrophy, without fibroma, without evident compression of the pelvic organs, can bring about such functional disorders and such a lamentable general state. I was compelled, however, to surrender to the evidence, and to seek for the best course to pursue. But the extreme situation to which the patient found herself reduced condemned in advance the ordinary means of reduction and retention. I could not think of adjusting the organ by the finger or the sound, of seizing it in the hypogastrium in order to bring it into a state of anteversion, of maintaining it by the help of various and ingenious pessaries, all with painful manipulations. Attempts several times renewed inevitable relapses, and during this time a continuation of the pains and of the metrorrhagia. There was no time for patient study, for trials of apparatuses, for groping along; it was necessary to let the patient die of anæmia, or try to save her by a decisive intervention.

The operation that first presented itself to the mind was that of Alexander, shortening of the round ligaments. But, up to the present time, my reading has not inspired me with great confidence in its efficacy. I do not believe either in the dangers or in the extreme difficulty of the operation, for the thesis of Beurnier (Paris, 1886) has perfectly informed us in that regard; but the study of this excellent work, in which the future of the operation is considered with much reserve, inspires us with doubts about the value of its remote results, and reminds us that it has been criticised or even condemned by careful authors, and by gynæcologists who do not have the reputation of recoiling before novelties or bold therapeutics (Emmet, Lawson Tait, etc.). Briefly, I do not wish to find fault in any manner with an operation of which I have no experience; but here I would have considered it as a too uncertain measure, and hardly justified in a case where surgery should make no mistake.

I might have done as M. Kœberlé has: open the abdomen above the pelvis, seek for the uterus in the true pelvis, and fix it by suture to the abdominal cicatrice. But I only thought of this procedure to reject it very quickly, for a laparotomy under these conditions is more serious than an ovariotomy, infinitely more serious than the operation of Alexander, and by no means legitimized, as are ordinarily supra-pubic hysterectomies, by their efficacy or the impossibility of doing otherwise. I was certain, in effect, of redressing the uterus, admitting that it would adhere to the wall, but who could assure me that, in this abnormal position, the pains and the congestions would cease?

There remained a last resort, vaginal hysterectomy. It is useless to say that the suppression of the uterus was a good way to suppress the retroflexion; so much for the efficiency. As to the comparative inocuousness, this *ultima ratio* by no means frightened me, for I knew already what estimate to put upon its veritable gravity and upon the best procedure for bringing it to a successful issue. I had then neither the desire of opening the abdomen otherwise than through the natural routes, nor the regret of not having been able to content myself with a frankly benign operation, the shortening of the round ligaments.

Thus the total ablation of the uterus was decided upon, which I performed the 28th of April at the Bichat Hospital, during the absence of my friend Terrier. I was aided by our excellent colleague, Prof. L. Thomas (of Tours); Drs. Cassin (of Avignon), de Madec (of Paris), were present at the operation.

Anæsthesia being complete, the bladder was emptied by the catheter, and the vagina washed by a large irrigation of sublimate to the 1000th. I seized the uterine cervix with a pair of Museux forceps, and drew it easily to the vulva; then I incised the vaginal culs-de-sac circularly, in such a way as to liberate the lower part of the neck. With the fingers I separated the uterus from the bladder; the separation completed, I seized the anterior cul-de-sac of the peritoneum with a pair of forceps, and I made therein a boutonnière, which my two index fingers enlarged very much. Then followed some search for and ready opening of the peritoneum behind, after which the uterus held only by the broad ligaments.

I had now reached the difficult and dangerous stage of the operation, that for which have been invented so many methods, ligatures of all kinds, inversion of the uterus, etc.; and I decided to apply, for the first time, the method of hæmostasis, and of section of the broad ligaments, which I had proposed a few months before to the Society of Surgery; that is to say, the long forceps with continuous pressure, left in place in the pelvic cavity.

I attacked first the ligament of the right side, and, having hooked it with the finger by its upper edge, I caught it very readily in the teeth of long and curved forceps. Then with scissors I cut close to the uterus, which, entirely liberated on the right side, was drawn out of the vulva, holding now only by the ligament of the left side. It became easy to place a second pair of forceps upon the second ligament, to divide it in its turn upon the left border of the organ, and to complete the extirpation. But in this last stage the ligament was pulled upon, torn about the middle of it, and a large artery bled, then another, and, finally, several arterioles upon the border of the vaginal wound; I had to press upon the important vessels four long, straight-toothed forceps, and two ordinary hæmostatic forceps upon the arterioles. There were then, in all, eight forceps: two large curved ones, four more slender, straight ones, and two small ones.

I closed the vaginal wound between the forceps with two silk threads; a useless practice, and one that I have not repeated upon my other patients. Finally, plugging of the vagina with iodoformed gauze, tampons of wadding, iodoformed on the outside, phenicated wadding, T-bandage. The operation had lasted one hour and ten minutes; but for the tearing of the second broad ligament, it would not have been half as long.

I will sum up the results in a few words. The evening of the operation, there were repeated attacks of vomiting, pains and groanings, and she received three hypodermic injections of morphine. The pains and the vomiting lasted until the 29th. Removal of the forceps on the 30th. Complete cessation of the vomiting the 2d of May. The 3d the tampons were removed; odor slightly fetid; three injections of sublimate a day. The 5th the patient commenced taking food; the abdomen was supple and indolent. From the 14th to the 16th diarrhœa, with elevation of the temperature, lumbar and abdominal pains. Everything was restored to order after the 17th, and Marie M—— left us well, the 3d of June, to go to the Vésinet.

You see, gentlemen, that I have had no reason to repent of having performed vaginal hysterectomy for a simple uterine retroflexion; but I have told you that the determining motive of my intervention, apart from the almost desperate situation of the patient, was the confidence with which the operation, when well conducted, inspired me; a confidence which reposes in great part upon the employment of a certain method. The moment has arrived for justifying this procedure, by speaking a few words to you in regard to the operation.

The first time that I performed total ablation of the uterus through the natural routes (August 8, 1885), I proceeded as is done abroad, as our colleague of Bordeaux advises, M. Demons (thesis of Jules Doche, Paris, 1884). I applied with difficulty ligatures of silk thread upon the broad ligaments. One of the ligatures, although very rigorously drawn, let go, and my patient died from hemorrhage. Soon afterward, my colleague, Terrier, who had cured his first patient, lost the second in the same way. This double check inspired me with the idea of a new treatment of the broad ligaments, which was communicated to the Society of Surgery, November the 11th, 1885, nearly in the following terms: "Ligation of the broad ligaments is the stumbling-block of vaginal hysterectomy; it is the great difficulty which entails two consequences equally deplorable; the prolongation of the manœuvres and the possibility of hemorrhage. All authors have sought to simplify it, without succeeding absolutely. We find mentioned as the cause of death, peritonitis, hemorrhage, and collapse; but I have reason to believe that a goodly number of cases of peritonitis, mentioned without further comment, were due to pelvic hemorrhage. Besides, whatever may be the frequency of hemorrhage, every procedure that will simplify the treatment of the broad ligaments will tend, at the same time, to remove the other causes of death, by diminishing the duration and the violence of the manipulations. Everything resolves itself, then, into finding some means of attaining this double aim: 1. To assure hæmostasis; 2. To abridge the duration of the operation.

"Now, this means exists; it is within our hands. I refer to the long forceps, with continuous pressure. I believe that these forceps, binding the two broad ligaments for twenty-four hours, will enable us to dispense with the ligatures, and will perfectly fulfill the double indication which I have just mentioned. And then, the operation will last half an hour, instead of an hour and a half; for, the first ligament hooked by its superior border, it is easy to grasp it with the long forceps; after section close to the uterus, and its extraction through the vagina, it is still more simple to grasp the second. The pelvic peritoneum will no longer be offended by the painful and repeated introduction of needles and of fingers. Is it not important, here as in ovariotomy, to quickly close the peritoneum again? In the second place, hæmostasis is assured, for the pressure of the forceps for twenty-four hours suffices to effectively obliterate even large arteries.

I do not see, moreover, any inconvenience that can outweigh the advantages of the long forceps substituted for the ligatures. The tissues compressed by the forceps will comport themselves like the tissues strangulated by the thread; the forceps will perform the duty of drains for twenty-four hours."

You see, gentlemen, that this procedure is only a particular application of forci-pressure, a general method of which several surgeons claim the paternity. I have quite recently read, in the *Gazette des Hôpitaux* of the 6th of July, a clinical lecture of M. Péan, in which are enumerated the advantages of the forceps, with continuous pressure, in a host of operations, among others, ablation of the uterus through the vagina; the author speaks therein of his "numerous vaginal hysterectomies." It is not said anywhere positively that the forceps had served him, in this operation, for the purpose of definitive hæmostasis; but it would be difficult for the reader not to suppose so; and the proof of it is that we read this morning, July 13, in the same journal, an interesting account by Dr. Buffet (of Elbeuf), in which the long forceps were used exactly as I described to the Society of Surgery, November 11, 1885, and in which the priority is none the less attributed to M. Péan. Yet I have sought in vain among the writings of the surgeon of Saint-Louis. I find but three accounts of vaginal hysterectomy, performed in 1882, the same year as the first of M. Demon's; twice for fibrous tumors, once for a cancer that had extended to the broad ligament. In the three cases the author has utilized the hæmostatic process during the operation, as we all do for an amputation of the breast, for example; but he has always removed the forceps and applied ligatures; he even adds explicitly, that it is necessary to apply ligatures, to remove the forceps, and close the peritoneum. He says, again, that he has performed the operation but twice for the extirpation of fibrous growths, and condemns it almost absolutely for epithelioma. I may then affirm that no surgeon has yet put into practice the procedure that I advise, for the same operation and in the same terms, that is to say, *leaving the long stationary forceps in the pelvic cavity, within the peritoneum, for twenty-four to forty-eight hours, in order to simplify the operation, to abridge the intra-peritoneal manœuvre, and to assure final hæmostasis.*

To finish with this question, I will sum up in a few lines the different steps of vaginal hysterectomy as thus perfected.

a) The patient, prepared by vaginal irrigations for a few days, is placed across the bed, the pelvis slightly elevated; two assistants maintain the thighs flexed upon the abdomen; the surgeon proceeds to catheterization, and gives an injection of sublimate.

b) Two elbowed écarseurs with a narrow blade being placed laterally, the operator depresses the fourchette with one or two fingers of the left hand, and introduces a Museux forceps, which seizes the neck; in order to hold it firmly, two forceps, placed side by side, are useful. The uterus is brought down gently.

c) With an ordinary bistoury, incision of the anterior vaginal cul-de-sac is performed. Do not make it too high, for fear of touching the bladder. Continue the incision circularly around the neck, inclined, then raised by help of the forceps of Museux. The two narrow bladed depressors follow the movements of the operator, and are almost always sufficient; a Sims speculum, which gives much light upon one point, but which draws upon the neighboring parts and prevents seeing the whole, is rarely necessary. The edge of the bistoury, always perpendicular to the surface of the uterus, entirely detaches the vaginal wall, divides the cellular filaments and disengages the neck.

d) The fingers suffice ordinarily to rapidly detach the bladder; they reach the fundus of the uterus and feel the peritoneal cul-de-sac stretched at the bottom of the wound. It is necessary, then, to lift the bladder with the index of the left hand, to conduct a forceps close by the uterus, to seize and draw down the peritoneum and to make in it a button-hole opening with the bistoury or the scissors. Then the two index fingers, introduced into the button-hole, tear it amply; a mounted sponge is placed in the gaping opening.

e) Posteriorly, the manœuvere is much more easy. In cutting towards the uterus, we quickly reach the peritoneal cul-de-sac, and it is often opened without having been observed; in all cases, the rectum is further from the bistoury than the bladder was just now. The button-hole being made, and largely torn, a mounted sponge is placed as before; the uterus now only holds by the broad ligaments.

All the steps which precede may have been executed rapidly; that which remains, long and laborious by the old methods, will demand of us neither more patience nor more labor.

f) Let us suppose first, that the case is easy; that is to say, that the uterus readily descends. After having completed, if necessary, by a few strokes of the bistoury on the right and left, the separation of the neck, I introduce the index of the left hand in front of the uterus, and I hook the upper edge of a broad ligament, then, taking a long and sharply curved forceps (*courbé sur le champ*) (*), I introduce one blade into the posterior laceration of the peritoneum, and the other into the anterior. The ligament is thus embraced; I push from below upwards, and my finger, disposed in the form of a hook, indicates to me when the forceps has passed the upper border; then I tighten to the last notch; I cut close by the uterus, and I draw the organ outside. The compression and the section of the second broad ligament are performed in full view.

If, on the contrary, the uterus will not descend, the first steps are not thereby notably modified, but the treatment of the broad ligaments presents new difficulties.

In that case, the lateral portions of the neck being disengaged, instead of going after the superior border of the ligament, which is not easily accessible, I propose seizing at once its lower half with a pair of straight forceps. The blades of this forceps, a little shorter and less powerful than the curved, are introduced in the same manner; then we cut close by the uterus the length of the forceps. The organ thus liberated on the right and left, to a great extent, allows itself to be drawn down with less effort, and it becomes easy to place other forceps on a level with its cornua.

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* *Courbe sur le champ* means that, the rings being placed lengthways and edgeways in the natural position of the hand when cutting with scissors, the instrument presents to the surgeon its concavity. The curved scissors of which we daily make use are *curved upon the flat*. (Note by the author.)

When one has proceeded in this manner, and I have done so in the case of my last patient operated upon, one leaves in the wound at least four pairs of forceps; only two would be left if the ligaments were clasped at one motion. But we must always expect to have to leave more of them, ordinary hæmostatic, long, straight, or curved, for vessels may bleed, before or after ablation of the uterus, upon section of the vagina or into the cellular tissue. I applied eight pairs of forceps in the case of Marie M——, and nearly as many in those following.

You will observe, gentlemen, that I have made no mention of the special appliances, mechanical beds, modified Museux forceps, endoceps and extraordinary bistouries which certain authors recommend. I do not refuse, be it understood, any progress of that kind; but up to the present time I have not had to put them to the test, and I have confined myself to describing the operation in its simplest terms.

All is not finished yet. What is to be done with the vaginal wound, and what dressing is to be chosen? In my first case, in which I made use of ligatures, I sutured the vagina upon the median line, and placed a tube at each of the angles of the wound; in the case of Marie M——, I introduced sutures between the forceps, which performed the duty of drains for forty-eight hours. But it is difficult to manœuvre at this depth in the midst of forceps, and, besides, it is perfectly useless; the wound ought to remain open, and the vaginal cavity is gently filled with tampons of iodoformed cotton. Then the patient is comfortably placed in her bed; the forceps are surrounded with cotton, and well sustained between the legs a little flexed.

I have always removed the forceps at the end of forty-eight hours; but it might be done on the second day. Otherwise everything remains in place, and the patient is not disturbed.

There is no question of making, during the first few days, irrigations which might enter largely into the peritoneal cavity. We commence them a little later, the tampons removed, when the deep parts have spontaneously retracted; at first the injection is but a washing out of the entrance of the vagina. Iodoform is here a wonderful antiseptic; the first tampons may remain from six to eight days, a little less if there is any odor; during this time the patient is catheterized regularly. When one has commenced the irrigations of sublimate to the 1000th (from three to five per day), the dressing consists of an iodoformed tampon gently placed at the entrance of the vagina, aseptic cotton, and a T-bandage. Thus treated, the patients have at first a few pains, some reflex vomiting, and a very slight elevation of temperature; at the end of eight days they are well, and they can get up at the end of the third week.

Such, gentlemen, is the course that I recommend and that has succeeded perfectly in my hands, since after having lost my first patient, operated upon in the old way. I have performed vaginal hysterectomy four times, and counted four successes. After Marie M——, whose history I have related to you, I operated May 20, 1886, in the service of M. Verneuil, upon a patient to whom my excellent teacher had called me. She was carrying an enormous vegetative tumor of the cervix, unfortunately involving the broad ligament of the right side. We had not recognized the extension of the disease; the long forceps was easily applied on the left side, but on the right it was impossible for me to pass with the instrument beyond the limits of the neoplasm; I seized, as well as I could, with forceps of different shapes, the friable and bleeding cancerous tissue; the results of the operation, which lasted an hour and a quarter were very simple. To-day the patient is naturally in the midst of a complete relapse, and I will not defend the opportuneness of the intervention; but I have the right to record the success of the operation. June the 11th, 1886, I operated upon a woman thirty-three years of age, vigorous and in good general health, for whom my colleague, Terrier, with his usual obligingness had loaned me his service at the Bichat Hospital. It was a cancer of the internal face of the cervix; two pairs of forceps, curved as before described, and five straight ones were left in place; the operation lasted thirty-five minutes; the temperature but a single time attained to 38°4. The patient got up after twenty-one days, and left the hospital at the end of a month in the best state of health.

Finally, my last vaginal hysterectomy was done on Monday, July 5th. It was in the case of a woman forty-one years old, whom I had had admitted to the Bichat Hospital after having observed her in the service of my colleague, Landrieux, at Saint Antoine. She had a very intense double sciatica and a pronounced paraplegia, suffered all the time, and was scarcely able to walk a few steps. The uterus appeared to be in a state of retroflexion, but by the rectal touch we recognized the presence of several little fibrous tumors projecting backwards. There was a vertical partition of the vagina, which led us to think that there was a bifid uterus; in fact, I found two cervical cavities, two orifices and two uterine cavities. In the course of the operation, the anterior cul-du-sac of the peritoneum was very much elevated, as it happens in this anomaly; the uterus was stuffed with fibroids, wedged in, and adherent to the wall of the pelvis; I had to break the adhesions with the finger, and the operation lasted more than an hour. Nevertheless, the patient suffered very little during two days, and vomited only the evening of the operation; the temperature never reached 38°, and the cure is now complete.

Having called to your attention again the history of my own cases, I will add that several of my colleagues have made use of the new procedure. One day M. Terrier had, of necessity, to leave in place two ordinary hæmostatic forceps upon the upper part of a broad ligament in which the silk thread has slipped. He had no cause to repent it, and since then he has adopted the stationary forceps; his patients have recovered as well as my own. MM. Trelat and Bouilly have done the same thing, and have had like success.

I conclude by repeating what I have said above: the long forceps left fixed in the pelvic cavity simplifies the operative procedure, abridges the intra-peritoneal manœuvre and assures final hæmostasis. This constitutes an advance upon all known methods.

I conclude also relative to the indications: uterine cancer, and it is very fortunate, is not the only motive for intervening by vaginal hysterectomy. Even when the terrible question of relapses shall be better understood, we will still have to reckon with these desperate cases. On the contrary, as to the lesions without relapse leaving after them no arrière-pensée, we ought to regard them as the most interesting indications of vaginal hysterectomy. I have performed it, and will do so again, for a little fibroma and for a simple uterine retroflexion with threatening symptoms; I shall certainly do it for rebellious prolapses. And since it seems established to-day that it is less serious, all things being equal, to remove the tumors and the pelvic organs through the natural route than by abdominal incision, I shall adhere to the practice of seizing, at the moment in which one can give them passage, the lesions which threaten life and those whose progressive march announces for a latter date either irremediable troubles, or the necessity of a more dangerous intervention. Thus understood, and properly supported, vaginal hysterectomy is an operation of great promise.

SELECTIONS.

ON THE PRINCIPLE OF TRACTION-RODS, WITH A SIMPLE SUGGESTION APPLICABLE TO ANY FORCEPS.—By William Stephenson, M.D., Professor of Midwifery in the University of Aberdeen.

The addition of traction-rods to midwifery-forceps marks an epoch in the process of their evolution. The credit of the conception is due to Tarnier; and, though his special form may be superseded, yet the profession will ever be indebted to him for the idea. They may as yet be imperfect in form, but it is not likely that the principle will be given up. Certainly no other modification has attracted so much attention, and been adopted in special cases by men of different schools in all parts of the world. Whatever objections may be brought against his forceps, the opinion that they possess some advantage over the ordinary instruments is too general amongst those who have tried them, to be ignored. In what does this advantage consist, or what is the principle involved in traction-rods? becomes an important question.

For myself, I must admit that the objections I entertain to Tarnier's forceps have prejudiced me against them. I still hold that they are too cumbrous and complicated to meet the wants of the general practitioner; that their method of use implied in the term axis-traction is delusive and wrong when applied generally; and that we lose much of the power and information of the skilled tactus when we relinquish the hold of the handles proper, and draw only by the rods. Experience in their use has, nevertheless, taught me that they embody an important principle, which brings the forceps nearer to the ideal of what they should be.

In comparing the action of traction-rods with that of the ordinary curved forceps, Tarnier and his followers do not state the subject accurately. They have assumed that the power is exerted always by simple traction, and that in both cases the force can be represented by a straight line. This is true for traction-rods only; it does not correctly represent the mode of using the ordinary forceps. With them it may be possible, in very easy cases, to deliver the head by simple traction; but, whenever the resistance is considerable, there is, consciously or not, on the part of the operator, always a leverage or straining effect by the hand, whereby the action is rendered compound, one force drawing in the line of the handles, and others acting as a couple, whereby the force is directed in the line of the axis of the blades. The resultant, therefore, cannot be represented by a straight line, but by a line and a couple; and the recognition of this fact is essential to the understanding of the principles of traction-rods. The difference between Tarnier's and ordinary forceps is not between direct and oblique traction, but between simple traction and a leverage or straining action, where the fulcrum can never be a rigidly fixed point. Dr. Albert Smith (*Transactions of the American Gynæcological Society*, Vol. 6, 1881) advocates the leverage method pure and simple, without traction. Generally, however, the two are combined, and in difficult labor it is impossible, with the ordinary curved forceps, to deliver the head without some degree of leverage or straining.

In discussing the subject, it would be well were all agreed as to the essential requirements in an ideal pair of forceps. These, to my mind, are the following:

1. They should provide a secure hold, which gives full command over the head. It is not sufficient that the hold does not slip, but the command also over the head must be good. For this purpose, we must be able to apply the blades to the head, in whatever position it may be, so that the force passes through the centre, and acts equally on all parts. Such a hold having been obtained, should not be disturbed. The pelvic curve in the forceps is necessary to accomplish this when the head is at the brim.

2. Prehension should mainly be dependent upon the cephalic curve, with a minimum amount of compression. To maintain the perfect action of the blades in this respect, it is necessary that the line of traction should coincide with the axis of prehension of the blades. In proportion as traction is made out of the axis of prehension, the forceps are liable to slip, and increased compression is necessary to counteract this and retain the hold. In order to permit a variation in the line of traction, it is advisable that the fenestra should be of sufficient width.

3. The forceps should be such that the extractive force can be exerted in any desired direction by simple traction only, and free from all strain upon the

hand of the operator or on the fœtal head. With an instrument such as the forceps must necessarily be, force can be always applied more directly and accurately, and more savingly, by simple traction, than by a combination of traction and leverage exerted by straining with one hand, or operating by two hands through a rigid rod. Simple traction, skillfully adjusted, is the safest and most saving mode of action.

4. The forceps should afford facility of varying the line of traction, when necessary, without disturbing the hold and command over the head. This condition cannot be accomplished by simple traction with forceps which, when applied, form a rigid rod. With such an instrument, a change in the direction of the force can be accomplished only by a change in the position of the blades, or by the leverage action of the hand. To effect the change by simple traction only, the instrument must be composed of two parts, one movable upon the other.

The question between the ordinary forceps and traction-rods turns on the means of adjusting the line of traction; but, whilst Tarnier and his followers have limited themselves to the axis of the pelvis, and mainly directed their attention to the head at the brim, the means devised have a much more extended application. By the prominence given to the opinion that traction should in all cases be made in the line of the pelvic axis, the true principle of the use of traction-rods has been obscured, and placed on too narrow a footing. Direct axis-traction is all that is required in simple cases where the resistance is offered by the soft parts alone; but it is quite insufficient in difficult delivery, where not only is the normal mechanism changed, but the resistance is greatly increased by malposition of the head, or by contraction of the pelvis.

Men may deceive themselves, and imagine that they are drawing directly in the line of the pelvic axis; but how can this be ascertained more than in a general way? It is certain also that the true line of action in difficult labor often lies out of the direction proper in the normal pelvis and head. Every skilled operator keeps the pelvic axis in view; but, consciously or not, the tactus leads him independently to adjust the direction of the force, altering it from time to time to meet the requirements of the case. It is not alone when the head is at the brim that traction is required out of the normal line, but also when the head is well in the pelvis, if its position be faulty. It is not, then, direct axis-traction alone that we must aim at, but skillfully adjusted traction. We must be able to vary the direction when necessary, and the question to be determined is, what is the best mode of obtaining the means of readily altering the line of traction, without diminishing the command over the head, or rendering the forceps liable to slip?

The pelvic curve in the forceps is necessary to obtain a proper hold of the head when it is at the brim, but it diminishes the power of simple traction, and necessitates the use of other means to obtain the proper direction of the force. In the straight forceps, the line of traction supplied by the handles coincides with the prehensile axis of the blades, and thereby a good hold of the head is secured with a minimum amount of compression. But when the pelvic curve is introduced the two no longer lie in one line, but are inclined to each other at an angle. The greater this angle, the more is the power of prehension and simple traction diminished. The defect, so far as the hold is concerned, is readily compensated by additional compression, whilst the defect in the line of traction is corrected by a leverage action of the hand. In easy cases, so long as the resistance is not great, the amount of compression is not such as is likely to be injurious to the head, nor is the strain on the hand so great as materially to limit the power. The instrument answers fairly well, and is sufficient for the majority of ordinary cases. But when the resistance is great, the defects become apparent. The amount of lever action becomes too much for one hand, and both are brought into requisition—one pulling one way, the other another. The strain, moreover, is not confined to the operating hands alone—it is conveyed to the fœtal head. In the efforts to adjust the traction, the handles are carried backwards, straining the pressure, or altering the position of the blades; the command over the head is lessened; and not unfrequently, when the strain is great, the forceps slip.

Another means of correcting the defects of the ordinary forceps is to give to the handles a curve complementary to that in the blades, as in Aveling's forceps. This, however, only restores the line of simple traction to that of the axis of prehension. It does not meet the fourth requirement described above, of affording the means of varying the line of traction without straining or otherwise disturbing the grasp upon the head.

With all forceps which, when applied, form, so to speak, a rigid rod, the line of simple traction can be varied only by altering the position of the blades, or moving blades and head together. A change in the position of the blades does not necessarily imply diminished command over the head, yet in some cases this must undoubtedly happen. With the other resource, that of turning the head with the blades, the movement may occasionally be advisable, but generally it would certainly derange the mechanism of the labor. It is important, therefore, that we should have at our command, when resistance is great, some other means of adjusting the line of traction other than that supplied by the handles of the instrument. This means for facility and accuracy in the adjustment must be movable upon, and not a component part of, the rigid instrument. The requirement is met by adding a separate traction-rod, freely movable upon the forceps proper.

All the forms of traction-rods which have as yet been devised are open to the serious objection that they greatly complicate the instrument; some simpler means is most desirable; and it would be a further recommendation if it could be applied to any form of the forceps, and be used or laid aside as desired. This, I would suggest, is to be found in a simple hook. What I first employed was the ordinary crotchet and blunt hook combined, using the crotchet end as the hook, and it answered very well. Held in the left hand, the tractor can, when wanted, be attached between the shanks and over the lock. With it so placed, and the right hand grasping the handles in the ordinary manner, traction is made simultaneously with both hands, the right acting in the line of the handles, the left at a proper angle, so that the resultant will coincide with the line of the desired movement. The force can be thus exerted in any direction, and changed at any time, without affecting the hold of the instrument, or throwing a strain other than direct traction upon the fœtal head. Perfect facility in the most delicate modification in the direction of the force is thus secured; simple traction without strain alone is used, whilst the means is simplicity itself, and can be used with any forceps. It is, I contend, a great mistake to relinquish the hold of the prehensile handles, as recommended by Tarnier and his followers. We thus lose much of the valuable information which is conveyed through the instrument to the mind of the operator—that skilled tactus, the full value of which can be estimated by those only who possess it.

An objection may be advanced that the power is applied less directly than with Tarnier's rods, and therefore there is loss of force. Even if this be the case, it is certainly largely counterbalanced by the gain in simplicity. And, after all, does not this suggestion look very like what has before been advanced? It embodies the action to which many have recourse, when they use both hands with the forceps; but it defines more clearly the principle, and gives greater precision to the action. It recalls to mind the fillet over the lock, suggested by H. F. Nägele in 1843; and the peculiar instrument of Herman, with a similar application.* But the idea associated with these is what I would wholly discard—that of leverage; whereas, what is sought for and specially insisted upon, in the use of the simple tractor, is direct traction only.

The chief question is: Does the plan fulfill the end in view? I have now used it in several difficult forceps cases, and am satisfied that I obtained with the simple tractor the same advantage I had found from using a modified Tarnier's forceps. In one case I have had the opportunity of comparing the two methods with the same patient, and therefore as near as possible under the same conditions. The first time I employed the late Dr. Macdonald's modification of Tarnier's forceps; the second, the ordinary Simpson's forceps with the hook tractor; the latter answered in every way as satisfactorily as the more complicated instrument. Those of my friends who have tried the tractor have reported favorably upon it. Experience alone will decide the relative merits, with the sure result of the "survival of the fittest."—*British Medical Journal.*

THE DISCUSSION ON HEART DISEASE AT BRIGHTON.

Among the many features at the recent meeting of the British Medical Association, none were more interesting or commendable than the discussion on cases in which disease of the valves of the heart has been known to exist for upwards of five years without causing any serious symptoms. The discussion was opened by Sir Andrew Clark, who never spoke to greater advantage. The difficulty of compactness, where the number of cases and the number of ideas to be dealt with were so great, will appear the more clearly the more it is considered, and when we remember the little leisure that Sir Andrew can have for either making notes or summarizing conclusions or impressions, we are disposed to highly commend his discourse at Brighton. The notes of cases of valvular disease on which the discourse was based extended over a period of fifteen years. The number of cases was no less than 684. These were without serious cardiac symptoms. It is interesting to notice for what purpose these patients found their way to Sir Andrew Clark. He gave the following particulars: 272 complained of indigestion, 57 of rheumatism, 22 of gout, 44 of nervous ailments, 17 of eczema, and 4 of phthisis. Other persons with cardiac murmurs suffer even more slightly than these, and so pass through years of life without having their heart murmurs detected; for which, as Dr. Bristowe seemed to think, there is something to be said. He said that many people were made miserable through the discovery by doctors of cardiac murmurs, of which they had no previous knowledge or symptoms, and he very shrewdly said that though he was disposed to think himself quite sound in a cardiac sense, he would be very sorry to invite the criticism of Sir Andrew Clark or Dr. Gairdner. Medical men have themselves to blame very largely for the exaggerated fears of heart disease entertained by many, and for an exaggerated objection to have their hearts examined. The stethoscope is a handy thing, and the detection of a murmur not a very difficult operation. Some physicians, more intent on making a show of their own art than a study of the patient's welfare, have been ready to magnify their little and cheap discoveries. The late Dr. Stokes used to tell, with strong disapproval, of a physician who, on detecting a murmur in the heart of a distinguished and useful public man, said, "Sir, I hear your death knell." Such a prognosis fulfills itself—as it did quickly in this case, though previously the patient was apparently in good health—and the man dies, not of the cardiac disease, but of the nervous shock, literally of his physician. The great value of the discussion raised by Sir Andrew Clark, and most ably sustained by Dr. Gairdner, Dr. Clifford Allbutt, Dr. Bristowe, and others, was not so much in any novelty of discovery announced, as in the evidence afforded by it of the wider and wiser view of disease taken by physicians and by all good practitioners, and of their perception of the fact that the run of people with heart disease do not fare very much worse than other people if they only have the sense to consult sensible medical men and follow their advice. We heartily endorse Sir Andrew Clark's teaching and that of the other distinguished authorities whom we have mentioned, and we bespeak for patients with heart disease, but with common sense and with due respect for medical teaching, more comfort from the profession than they have sometimes received. Let their common ailments be cured, let their diathesis be considered, let their intelligence be appealed to as to the best way of preserving their health and improving the muscular tissue of their heart as of their limbs, let Dr. Allbutt's shrewd remarks as to the specially injurious effects of alcohol on the heart tissue, and Sir Andrew's exposure of the folly of overeating and drinking, be duly pondered, and valvular disease will lose half its terrors. It is half—it is two-thirds—of the duty of a physician to find out the favorable facts about disease. He is not a mere pathologist, a mere hearer of murmurs. We cannot have absolutely healthy bodies; few of us have. Nearly all great works are done by those in whose health there is a flaw, to be detected, perhaps, but not to be magnified, "rather to be healed." As physicians cultivate this view of their calling, men will flock to them for comfort and for guidance. Faulty men will not evade them, even if they happen to be physicians to life insurance offices, who have lessons to learn from the recent discussion at Brighton.—*Lancet.*

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* See Dr. Albert Smith's paper, before referred to.

SOME POINTS IN THE SURGERY OF THE GENITO-URINARY ORGANS IN CHILDHOOD.

By DeForrest Willard, M. D., Lecturer on Orthopædic Surgery, University of Pennsylvania, etc.

PHYMOSIS.

An adherent and contracted prepuce is a normal state at birth in all male infants, or, to speak more correctly, adhesion is always present with apparent contraction.

This condition is doubtless due to an interlacing of the network of fibres in the protoplasmic cells of the rete Malpighii, which cells harden about the time of birth.

True contraction is rare during early infancy, and the adhesion at this time is very slight. The latter becomes more firm with advancing years, but is usually relieved by the boy's own manipulations before he reaches the age of ten. The retention of smegma or a slight balanitis may also convert a seeming contraction into a true one.

This retained smegma, as a rule, seems to result in no serious injury, but in a considerable number of cases the irritation produced by the hardened masses not only conduces to priapism, dysuria, symptoms of stone, cystitis, general mal-nutrition, and nocturnal incontinence, but also to paresis, chorea, convulsions, and various reflex nervous phenomena.

The long narrow foreskin of a child at first gives the appearance of contraction, but if the skin be gently and patiently pressed backward for a few moments the opening, almost pin-hole at first, will be seen. As the prepuce recedes upon the stiffening member, the meatus will appear. Often the adhesion will be found to commence just behind this orifice, but no instrument other than the operator's thumbs will be required. The force requisite to peel off the rind of an orange will speedily strip the prepuce from the glans and carry it behind the corona, when the smegma can be removed and an emollient ointment applied. Restoration of the prepuce to its original position should be accomplished before turgidity of the glans occurs. In case of delay or difficulty, a couple of probes or hair-pins answer admirably for sliding the skin back into position.

The use of a probe or grooved director to tear up the adhesions is rarely, though sometimes, necessary. Dilatation by dressing forceps or special phymosis forceps is only occasionally required. Uterine dilators, tracheotomy forceps, and various forms of instruments specially constructed have been used for this stretching process, but as one increases in dexterity from practice, he will find them of but little importance, as stripping by the thumbs is ordinarily easily accomplished.

Slight œdema and painful micturition will follow this operation for a few days, but emollients are sufficient for relief. A hot hip-bath will greatly facilitate the passage of urine. Retraction and cleansing should be persistently employed thereafter, and the nurse instructed that daily attention is to be practiced. Later the patient should be taught to wash the penis just as he washes his face and hands for cleanliness sake.

There are many who deny that reflex phenomena are caused by phymosis, but the proofs are too positive to admit of disbelief, and Sayre deserves much credit for emphasizing the importance of this adhesion in the production of ataxic conditions. One may well differ from him as regards the remedial measures required, but not as to this causal element in muscular inco-ordination,

I have before contended,* and still maintain, that the most perfect penis and the one least liable to disease or to induce masturbation is one in which the prepuce moves freely over a normal glans, and that this can be secured in nearly all young children by the simple stripping already described. In a few cases, when this result is not attainable, circumcision may become necessary; and when failure to produce the desired freedom occurs, I do not hesitate to practice the more severe operation. In large boys and in adults all the circumstances are different, and dilatation is rarely beneficial without removal of the foreskin; but in infants, and in boys from two to eight, one need rarely ask for better results than are secured by the thumbs alone.

Dr. Ellwood Wilson, who for many years has had one of the most extensive practices in this city, recently informed me that he had employed stripping of the glans since my recommendation of the operation in 1883, and that he has now acquired such dexterity of manipulation that he could uncover the glans in almost every young child without the use of any instrument. He now rarely resorts to circumcision, although he formerly practiced it largely. His experience coincides with that of all who have tried the plan. Until the surgeon has acquired this skill, it will be well for him to retract the fold as far as possible, and while holding it firmly in this position to sweep a probe around the circumference of the head, thus loosening the anterior adhesions. Retraction, which before seemed impossible, will now be a simple matter, since it is the adhesions that produce the apparent contraction. The operation may be done as early as the second day of life.

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* *Philadelphia Medical Times*, June 30, 1883.

The retention of the head of the organ beneath the foreskin is said to debar the individual from the full enjoyment of sexual intercourse in later years; but as there does not seem to exist any crying need for incentives in this direction, and as the obtunding influence of friction upon the exposed epithelium is similar in its action, and especially as there is no need of any glans being covered provided early stripping is practiced, I still believe that a non-adherent prepuce is the healthiest condition. Moreover, a glans covered by a freely sliding foreskin is certainly better capable of appreciating the sexual orgasm than one that is calloused. A penis with blunted sensibility is sometimes driven through the recto-vaginal wall during coition.* Cold water used daily is also more helpful than circumcision in the prevention of disease.

Contraction of the meatus, which so often results from friction upon the delicate surface after circumcision, is almost as productive of brain irritation as is the accumulation of smegma.

Otis writes† that a contracted meatus may cause serious mental depression, epilepsy, loss of muscular power, etc., which symptoms have all been relieved by enlargement of the narrowed orifice. Denslow‡ also reports epilepsy, general depression, melancholia, feeble locomotion, etc., as cured by stretching of a contracted meatus.

It has already been stated that circumcision is occasionally necessary in children, and frequently in adults. The rule should be to expose the glans freely for cleansing purposes whenever the slightest irritation occurs. This condition should be secured by a cutting operation, provided the simpler method fails.

In skillful hands this will be at rare intervals, but when required in infants with excessively long and narrow foreskins, the removal of a ring is better than slitting up the fold, since thickened masses on either side of the frenum are liable to follow the latter operation, and greatly disfigure the organ.

Cocaine has recently been largely used for obtunding the sensibility of the region, and thus abolishing ether; but if used hypodermically at various points, the pain of the punctures, together with the irritation of the drug and the delay in waiting for its action, are not in its favor. The frequent bathing of the prepuce and glans, and the retention beneath its folds of a strong cocaine solution, will, however, greatly benefit in any case where an anæsthetic is undesirable. If employed, the gum ring around the base of the penis should always be used to control the circulation.

Freezing by ether spray gives pain before, during, and after operation.

A large number of forceps have been devised for this particular operation, many of them ingenious and useful, but entirely unnecessary, since a bistoury and forceps are equally good, and are always at hand. The section can always be made anterior to the forceps. Care should be taken in the ordinary circumcision to draw upon the mucous layer more strongly than on the skin, and thus remove a sufficient portion of the former, since if this is not done slitting and trimming is necessary to remove the contraction, followed by careful stitching. Wire is no better than silk, and is much more annoying and painful during the next few days. On account of the great œdema of the loose connective tissue which is sure to follow, black sutures are more easily distinguished than white ones. In order to secure the most speedy union, the wound should be washed with a 1 to 5000 bichloride solution, and covered with a large wad of feebly sublimated cotton, which can be renewed at each urination. The best bandage is an ordinary diaper. The vessels will rarely require either a silk or catgut ligature. Hemorrhage is rare, even when the Jewish rabbi tears back the mucous layer and applies no sutures. A fatal case is occasionally, however, reported. The stitches should be removed by the fourth day, and undue inflammation subdued by cooling lotions.

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* Jour. Amer. Med. Assoc., June 5, 1886.

† Transactions American Dermatological Convention, 1884.

‡ Transactions American Dermatological Association, 1884; also N. Y. Medical Record, November 7, 1885.

If the blood is thoroughly pressed out of the organ and a gum ring slipped over its base, there will be little or no bleeding.

The plan of slitting upon the dorsum, or on the sides, is not a good one, and in careless hands the urethra even has been divided. Blood-poisoning and death have also followed the use of septic instruments in a simple circumcision. It has been stated that Hebrews are less addicted to masturbation, and are less subject to syphilis, but my experience does not accord with this view, unsupported as it is by facts.

In summing up, it can be said that stripping in young infants is one of the simplest and easiest of operations. In children it is still easily accomplished in the majority of cases by the help of a grooved director or probe. After twelve, if the glans has not been uncovered, circumcision will usually be necessary, as dilatation is rarely successful in giving that freedom of motion which is essential in all cases.

Exposure of the glans is always necessary for cleanliness' sake, and should be secured without fail whenever any nervous or reflex symptoms are present.*

In girls adhesion, hypertrophy, or hyperæsthesia of the labia may induce a nervous irritability at a very early age, which is often followed by a loss of coördination, or by spasmodic movements.

Only a few days since, while operating upon a little girl for umbilical fistula, I discovered a very strong adhesion of the labia minora entirely closing the orifice of the vagina, save at a point opposite the urethra.

Adhesions can be easily broken up either between the nymphæ or around the hood of the clitoris, and enlargements can be removed. Excessive irritability is relieved by astringent and anodyne lotions.

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*Lists of the literature of this subject can be found in *Philadelphia Medical Times*, June, 1883, and *New York Medical Times*, September, 1884.

HYPOSPADIAS.

Hypospadias is that condition of the urethra in which, owing to the absence of a part or a whole of the lower wall of the tube, the opening for the escape of urine exists at some point between the extremity of the glans and the neck of the bladder.

In its slightest degree, the opening may simply be upon the under surface of the glans; in its severest form, associated as it is with cleft scrotum and cryptorchidism, the sex of the individual may necessitate careful external and internal examination for its proper identification. Even in the lesser degree the flattened and furrowed recurved glans, the shortened spongy body, the redundant preputial hood, and the generally distorted members demand earnest and patient remedial measures.

Sometimes the urethra is perfect in front of the opening; more frequently it is absent, or is indicated by a groove. The cause of hypospadias is undoubtedly an arrest of development, or a want of union between the arches as they rise from the urogenital sinus. The scrotal portion of the tube being formed early, from the external genital buds, is not as prone to be the subject of deformity, but when the aperture is near the glans other malformations usually coexist, as short frenum, deficient corpus spongiosum, webbed penis, etc.

Heredity is often seen as a cause, and it is stated that one child in three hundred is afflicted with this condition.

Treatment.—The relief of hypospadias demands the hearty coöperation of parents in carrying out the surgeon's plans, since a number of operations may be necessary. The operations of Bouisson, Nélaton, Ander, Theirsh,* Duplay, and others are variously employed, but the object of each is to construct a new tube by uniting the adjacent sides of the corpora cavernosa. The most satisfactory plan is the one of Duplay,† in which three successive steps are made.

1st. *Straightening of the Penis.*—This is accomplished by multiple sections of all the tissues that interfere with a proper erection of the organ, especially the strong muco-cutaneous fold. I can most heartily endorse the importance of this step, since with numerous and deep incisions, even into the corporal sheaths, great benefit can be secured. An incurved and distorted penis is a source of great mortification to a boy from five to fifteen, and it is advisable that operative measures be commenced as soon as the ordinary diseases of infancy have passed, *i. e.*, at the completion of the first dentition. Incision and thorough stretching during anæsthesia will give a useful member and prepare the way for the next step, which should be deferred until the danger of secondary cicatrical contraction has passed, say about eight or ten months.

Webbed penis should be freely separated from the scrotum.

2d. *Formation of New Urethra in Front of the Opening.*—The method of performing this portion of the operation will depend upon the situation of the

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* *Archives Générales de Medecine*, May, 1874.

† Ashhurst's "International Encyclop. Surg.," vol. vi., p. 493.

ABSTRACTS.

THE ART OF PRESCRIBING. (Professor J. H. Pooley in *The Cincinnati Lancet-Clinic.*) Whether we furnish the medicine ourselves, or order it from the druggist, there are some things about this, our daily occupation of prescribing for the sick, of a good deal of practical importance, but about which very little is said or written. Some few of these practical, every-day matters I propose briefly to notice. And first I would say that a successful prescriber must himself believe in the efficacy of the remedies he prescribes. Overweening faith in drugs, as though they could subvert the laws of nature, and take the place of other agencies, acting in some occult and mysterious manner, is, of course, unwise and unscientific; but absolute skepticism on the subject, such as some affect, is much worse. If we do not believe in medicine at all, our practice of it is a fraud, and, like all other frauds, sure to be detected sooner or later. The successful physician is one who has definite aims in view, and clear ideas of the best means of accomplishing those aims; and, barring exceptional cases and idiosyncrasies, he pretty generally finds his means more or less perfectly accomplish his ends; therefore he predicts the result of his prescription with certainty, and, when the patient finds that it so turns out, confidence is established, and, if it be in ever so small and trifling a particular, it doubles the physician's ability to do that patient good forever after.

Another point is the importance of using medicines in concentrated forms and as small doses as possible. In these days people will no longer swallow an ounce of bark, or a loathsome dose of jalap or rhubarb, when they find that another physician gives nice little pills, or a few drops of some concentrated preparation, and cures his patients just as well. And they are quite right too.

We must study to some extent elegance of preparation; just as surely as food may be made to taste ten times as well by artistic cookery may medicine be robbed of most of its disagreeableness by similar care. Never neglect to prescribe something at the first visit; it may theoretically appear better, from uncertainty of diagnosis or absence of any sufficient indication for treatment, to wait awhile, but the sick and their friends will never appreciate the wisdom of such delay. They believe in the potency of medicine and the entity of disease, and to them the idea that the patient should be left, for ever so little time, to fight it unaided, is not to be tolerated for a moment. It is always safe and often useful, in the absence of any definite indication, to prescribe frequently repeated doses of some alkaline or natural salt, such as bicarbonate of potassa, nitrate of potassa, in solution, or the so-called spts. mindereri, etc.; and this has the appearance at least of active treatment.

Another most excellent prescription on the first visit to a sick child is a warm bath; this always does good, and among the poor, being a luxury they too seldom enjoy, is absolutely called for.

Always prescribe medicine in quantity proportionate to the probable needs of the case, and no more. To have a long array of four and six ounce bottles, each half full or more, at the conclusion of an attack of illness, is not a particularly attractive display to those who have been obliged to pay for them. Do not change your prescription at every visit, for this seems to indicate uncertainty and vacillation in the plan of treatment. On the other hand, if the patient is not improving satisfactorily, do not persist too long in one prescription; a change may really be advantageous, and at least has the appearance of "doing all you can," as the people say. These two points are matters of judg-

EPISPADIAS.

Epispadias is a deformity caused by the absence of a portion or of the whole of the upper wall of the urethra. When the canal ends just behind the glans, the condition is denominated a *glandular* epispadias, but when complete it is called *penile*. In the latter case there is nearly always an absence of the pubic bones, and exstrophy of the bladder is not infrequently associated with it. Arrest of development would suffice to explain the minor degrees of this malformation, although it at first seems strange that the urethral tube could lie at the dorsum of the organ. It should be remembered, however, that this malformation is not simply one involving the spongy body, but also the corpora cavernosa, and that any deviation in the reflection or union of the vascular fasciculi, or of the superior external genital nodules of Coste, or any disparity in time in the development of the internal and external organs of generation, would easily bring about the deformity.

Practically, the non-union of the corpora cavernosa and the falling apart of these two sections, together with the absence of the upper urethral wall, renders visible the floor of the tube.

For the remedy of this defect several operations have been devised, but all are to a certain extent unsatisfactory, and several attempts are often required before success is attained. Duplay's* operation seems to offer the best chance of success, since the fresh surfaces are made from the sides of the out-rolling cavernous bodies, and dependence is not placed so much upon integumentary flaps as in the Thiersh and Nélaton procedures. The organ is first straightened by multiple incisions, then a new tube is formed from the extremity back to the epispadiac opening, and as a third operation the two portions of the urethra are united.

In order to form the canal the separated corpora are drawn together, after freshening, by quilled sutures, and are thus made to form a strong upper urethral boundary. The redundant prepuce is utilized by making a slit in its raised flaps, and by passing the glans through this, using the tissue as a dorsal covering for the new tube.

In the plans which rely upon the integument, one flap is thrown over the freshened chasm with its skin surface urethra-ward, while its raw aspect is covered by the fresh portion of another flap taken from the opposite side. When the penis is too illy-formed to supply these tissues, they may be taken from the scrotum, or the prepuce, or the thigh.

Incontinence is sometimes, but not always, prevented. Exstrophy of the bladder, if co-existent, should receive early attention.—*Archives of Pediatrics.*

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* **Ashhurst's "International Encyclop. Surg.," vol. vi., p. 500.**

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While you seek to understand the pathological nature of every case, and to be guided by some leading and rational indication, do not be above prescribing for symptoms as well. In this respect the homeopathists have been wiser than we and may well teach us a lesson. For every separate ache or pain they have a drop or pellet. The patient's back aches; they give him something for that, in addition to his other medicine; pretty soon, almost as a matter of course, the back-ache is better, and the medicine gets the credit of it; if it had not been taken the result would no doubt have been the same, but with this important difference, the doctor would not have been thanked for it; *fas est ab hestes doceri*.

When large quantities of a remedy are to be used, as for injection or a wash, to order it in bulk and let the patient dissolve or prepare it, either all at once or as required for use, will be cheaper than having it prepared by the apothecary, and he will appreciate this saving to his pocket, though he may say nothing about it. Indeed, when patients are poor, this consideration as to the expense of drugs, and different forms and modes of preparation, is not only a matter of policy; it becomes an absolute duty.

Always give directions for the use of medicines precisely, formally, and minutely; let it appear that you regard it as a matter of importance; for if you do not neither will others.

And if anything in addition to what you have ordered is suggested, if you allow it at all, take care that it does not interfere with your own plans; never permit it as a substitute.

The written directions for medicine should always be in English, and as simple and plain as possible; but the body of the prescription should be in our technical lingo—I will not call it Latin.

It is not best for patients, as a rule, to know what they are taking. There is so much human nature in folks that in many cases where an infusion of salvio officinalis would do good, sage tea would be perfectly inert, and there are those who would be in a constant fidget if they knew they were taking arsenic or mercury, if indeed they consented to take it at all.

At every visit inquire if the directions given at the last have been carried out before making any remarks on the patient's condition; you will thus save yourself from the unpleasant predicament of attributing any improvement that may have taken place to medicine that has never been taken, or some other thing that has not been done. I have known more than once the doctor to be laughed at in this way, and some people think it very smart, but I speak from experience when I say it is not very pleasant.

Now and then, in a class of cases that need not be particularized to a professional audience, it is well to be *very* precise as to the method of using a medicine—so many drops to be taken, neither more or less, and such and such things to be avoided as incompatible, etc ;—it is the mental impression produced which does the business. I do not advocate hoaxing of any kind. I would never prescribe bread pills, nor anything of the sort; such conduct I regard as utterly beneath the dignity and seriousness of our profession ; still, he who does not appreciate the power of a strong mental impression, and know how to turn it to good account, has something yet to learn.

There is one remedy the doctor can always take with him, and always should, and that too the most sovereign remedy of all, and that is cheerfulness and hope. In all except the most obviously desperate cases, we should present to the patient the best and most cheering aspect of the case, and encourage him, both by our words and our whole demeanor, to hope for the best.

It has been well and wisely said that a cheerful spirit does good like a medicine, and the medical man should always bring this spirit with its health-giving influences as an atmosphere, wherever he goes. A sombre, melancholy, or morose physician may be tolerated, but can never be welcome, and sadly limits his own powers for usefulness. And, considering the matter subjectively, it would seem that one of a hopeful temperament would on that very account bring more force, and spirit, and resource to the combat with disease, than the timid and desponding, just as a general who believes in himself and his cause, and expects to conquer, almost commands success.

Another thing that seems to me worth mentioning, and which was once forcibly presented to me by the late Dr. Peaslee, one of the best and most successful of physicians, is that people don't want a sick doctor; they have enough of that themselves, and the medical man, if he happens to feel rather out of sorts, should conceal rather that parade his invalidism, and bring the vigor and brightness of health as well as the resources of science into the sick room. If he is not well enough to do this he had better stay at home till he is.

Though it is not precisely in the line of my present strain of remark, I may digress for a moment to say that I would not countenance, in the presence of the laity, that disparagement, or even ridicule of medicine, which some physicians seem to think the mark of a superior and liberal mind. It is an old and homely proverb, but a true one, that "it is an ill bird that fouls its own nest ;" people may join in with such a strain of remarks, and even seem to applaud it, but they think none the better of him who indulges in it, nor are they likely to choose him for their physician. Nor is it well to let people know what simple things, as they regard them, are hidden under the mystery of technical and Latin names. There is nothing so simple that we can truly say that we know all about it, or its powers and properties, and besides, if there is any advantage to be gained by a little mystery in dealing with that strange and intractable thing called human-nature, we are fairly entitled to the benefit of it.

Always magnify your office, not yourself; show in little things, as well as in great, that you regard it as a noble one; respect yourself and your profession, and those you have to do with will respect it all the more because they are compelled to respect you as its representative. Every man, Bacon says, is a doctor to his calling or profession, and, as he expects to receive honor and advantage from the same, is bound to labor to extend its power and usefulness.

THE PREVENTIVE TREATMENT OF SYPHILIS (Dr. Charles E. Jennings in the *Lancet*).—The following case is of interest, as showing how syphilis may be prevented by prompt local and general treatment before the chancre has arrived at maturity: Early in November, 1885, Mr. A. B. C. consulted me for an eczematous affection of the skin, which itched intensely, associated with a few papules and vesicles, the eruption being sparsely scattered over the loins, buttocks, back, and upper arms. An aperient was prescribed, and glycerole of lead applications were ordered, but on November 11 the disease remained *in statu quo*. The aspect of dermatitis, in part, suggested scabies, but the integument was healthy at those points which are specially prone to become the seat of scabies, viz.: the clefts between the fingers and the flexures of the wrists. Moreover, the sarcoptes hominis was not detected microscopically, after careful search in the ordinary manner. The case was further complicated by the recent appearance of a hard, elevated nodule, the size of half a pea, with an inflammatory zone around it, situated on the dorsum of the penis immediately behind the corona in the median line. There was a history of impure contact, and nearly three weeks previously the covering of the penis had become abraded during coitus at the precise spot where this small nodule had developed during the past three or four days. The lymphatic glands in both inguinal regions were slightly enlarged. The physical condition of the lesion on the penis led me to consider it a hard chancre not yet arrived at maturity, and, being immature, the prompt destruction of the chancre might arrest the elaboration of the syphilitic virus at the point of inoculation and its absorption therefrom. Accordingly, the chancre and surrounding parts were freely painted with a solution of hydrochlorate of cocaine, to ensure anæsthesia, and the chancre was destroyed with Paquelin's cautery. I suggested that Sir William Jenner's opinion should be sought with reference to the skin affection. On November 12, Sir William considered the dermatitis due to scabies, and that its origin around the loins and buttocks was caused by contagion implanted during congress coincident with the receipt of the syphilitic virus. He suggested the application of sulphur ointment to the affected skin, and thought that the free exhibition of mercury internally was also advisable in order to combat the effects of any portion of syphilitic virus already absorbed. This treatment was fully carried out, and the dermatitis quickly disappeared. The sore on the penis healed under iodoform dressings. The internal use of mercury was discontinued after six weeks, the patient soon regaining his usual health, and none of the secondary manifestations of syphilis have appeared. The success which followed the destruction of the chancre in this case by Paquelin's cautery, with the simultaneous employment of mercury, leads me to strongly recommend this course for syphilis, *before the chancre has arrived at maturity*, in preference to the opposite plan adopted by so many, viz.: that of waiting for the appearance of secondary manifestations before commencing anti-syphilitic treatment. The use of cocaine is invaluable as rendering the caustic application painless.

THE TREATMENT OF DISEASE BY THE VARIOUS MINERAL WATERS —(Dr. Titus Munson Coan, in the *Journal of Reconstructives*). For anæmia, the reconstructive and tonic waters are needed, in conjunction with such diet as will restore the lacking elements of the blood. Beef peptonoids for the anæmia of dyspepsia; gluten bread and whole wheat bread for that of diabetes; cod liver oil and milk for that of the phthisical diathesis are indicated. The springs of Auvergne, and of Salins, Luxeuil, and Bussang, in

France; Franzensbad in Austria, and our own Columbian Spring at Saratoga, will bring relief or cure when used with these adjuvants. When chlorosis accompanies constitutional anæmia, the contrasted influences of Alpine resorts and sea-bathing are alike useful.

For asthma and bronchitis: Mont-Dore, Royat, Ems, Aix-les-Bains, Virginia Red Sulphur Springs.

For post-nasal catarrh: Aix, Mont-Dore. But energetic local treatment in addition is sometimes needed.

For dysentery: Rockbridge Alum Springs, Bussang in the Vosges.

For dysmenorrhœa, the saline, iron, and sulphur springs must be chosen among.

For dyspepsia, Carlsbad, Vichy, Pougues, Bagnères de Bigorre, Kissingen, Hombourg, Salins, Hathorn Springs, Greenbrier White Sulphur, and many others, according to the symptoms.

For gout: Vichy, Vals, Royat, Buffalo Lithia, Sharon Springs.

For acid gravel (the most frequent form): Carlsbad, Ems, Neuenahr, Buffalo Lithia, Capon Springs, Gettysburg "Catalysine."

For alkaline gravel, the calcic waters. Clysmic is one of the best, and it is, also a very pleasant table water.

For hysteria: Pyrmont, Schwalbach, Spa, Néris, Schooley's Mountain, Rawley Springs, Congress Spring. A patient of mine, a delicate woman, found great relief at Luxeuil, in Eastern France.

For intermittent fever and malaria, the waters of the Massanetta Spring have a desirable reputation.

For laryngitis, or "clergyman's sore throat," choose among the sulphur waters rich in sodium, or the alkaline, with chloride of sodium. Eaux Bonnes, Ems, Oberzarbrunnen, Neuenahr, Selters, Sharon Springs, are typical and excellent waters of these kinds.

For engorged or fatty liver: Carlsbad, Marienbad, Tarasp; when nutrition is badly impaired, Kissingen, Hombourg, Salins.

For articular rheumatism: Aix, Springs of the Pyrenees, Hercules Baths, Baden Baden, Wiesbaden, Ischl, Sharon, Richfield Springs. For muscular rheumatism, thermal springs, as Teplitz, Warmbrunnen, Gastein Ragatz, Plombiéres, Lebanon Springs.

For torpid scrofula: Salins, Kreuznach, Ischl, Kosen, Bourbonne-les-Bains, Rockbridge Alum, Greenbrier Springs.

For irritable or "erethic" scrofula: La Bourboule, St. Nectaire, and other springs of Auvergne.

For skin diseases, the sulphur and arsenical springs offer a vast field of choice, according to the character of the case.

Uterine diseases are variously treated by the alkaline, muriated, or saline waters, and with brine baths or the ascending douche. They form a large contingent of the cases treated at mineral springs, both here and abroad.

Such, in brief, are some of the main ailments for which relief is sought, and with success, at the healings springs of our own and other countries. It remains only to say that in more than a few cases a home treatment may be adopted, under medical advice, by the employment either of the imported or the artificial waters. Whether at home or abroad, the invalid should consult a competent physician before deciding his choice among mineral springs. These delicate yet powerful remedies are among the best of reconstructives when properly chosen.

GALVANO-CAUTERY IN DISEASES OF THE PROSTATE, BLADDER AND URETHRA.—In the *Journal of the American Medical Association* of Aug. 28, Dr. Robert Newman, of New York, describes a new galvano-cautery sound. The instrument is in the shape of a catheter, of smooth, polished metal, with a short curve. At the end of its convexity is a fenestrum, in which is placed a platinum wire to be heated. This wire may be shaped differently, either straight, curved or serpentine, in order to get more or less surface cautery. The other end of the instrument is straight and forms the handle; from this end emerge two wires, the heat conductors, each of which is connected by binding screws to electrode wires, which respectively go to the positive and negative pole of the battery. The current-breaker is attached to one pole at the handle. Any good galvano-cautery battery may be used with the instrument, but it is necessary, as before stated, to so regulate the battery that it yields the exact electrical potential to be used for the operation. He uses a Dawson battery, which works to his entire satisfaction. Experiments are necessary to establish the standard. The heat must be of a high red color, just short of white heat, the instant the current-breaker is touched; this heat must be kept while the wire is in contact with the mucous lining. Less electricity is required to heat a free wire in dry air than to heat a wire held against a moist surface. The strength of the fluid is adjusted according to these requirements; the elements are immersed in the fluid to a certain depth, the electrode wires are regulated with regard to their size, length, etc.

The treatment of enlarged prostate which he prefers, and alone recommends, is the *slow* (regular) *method*. This means, give the enlarged gland a short application, from a moment to three seconds' duration; this causes not more than a white film similar to the effect of nitrate of silver, in the treatment of Desormeaux. The *modus operandi* is as follows: The instrument is connected with the electrode wires, which are then attached to the battery. The fluid in the cells must be of the right standard, and all the machinery in perfect order. When all is ready, he invariably lets the cells down and tries the instrument with a short flash. No matter what assurance he has of the perfection of the appliances, this little experiment excludes any possible failure. The prostatic portion to which the cautery is to be applied must have been ascertained and the distance from the meatus measured. This distance is then marked on the instrument by a small rubber band. The patient, according to his preference, may stand erect, be on an operating table, or in bed. The instrument is then introduced so that the fenestrum with its platinum wire is in contact with the part to be cauterized. The operator will know by touch when the instrument is in the right place, and the measure will corroborate the correctness of the situation. One hand holds the instrument and the other sets the battery in motion, and then touches the little spring to connect the interrupter; a flash follows, the finger disconnects the current. In one moment the operation is done, and the instrument is withdrawn. It causes no pain, and in some instances the patient scarcely believes that anything has been done. He is able to walk about and is not detained from business. In cases of very irritable patients, he has used cocaine injections, but it was scarcely necessary. The séance should be repeated in about three days, or even in two. The instrument must be kept scrupulously clean, as the cautery will fail if there is dirt between the connections.

The question now arises, How does this method bring about a cure? The end sought is, first to remove the obstruction, so that the bladder can discharge all the urine, and at regular intervals; and then, in order to make the cure radical, to reduce the prostate to its normal size. The theory is that the cautery first acts as a tonic and next as an astringent; the mucous lining shrivels up, the glandular tissue contracts, and by shrinkage the size is diminished. The stimulation gives new life and healthy action. Each repetition of the operation acts similarly, and perhaps on another part of the hypertrophy. The operation must be continued till the cure is affected. Care must be taken not to overstimulate, and cause prostatorrhœa, prostatitis, etc., thereby creating or aggravating the very ailment we seek to cure. The cautery must be given just severely enough to accomplish the object and no more. If the cauterization is too prolonged, and too deep, the glandular action is overtaxed and weakened, and will be followed by a terrible prostatorrhœa, which takes a long time to cure. At the same time an inflammation is created which causes pain and swelling, and at last, the too greatly cauterized tissue will slough away and may cause septicæmia.

Dr. Newman has also employed his instrument in the treatment of spermatorrhœa, impotence, diseases of the bladder, such as villous tumor and traumatic ulcer of the neck of the bladder, and urethral granulations, denuded surfaces and ulcers. In addition, he has used it with good results in hypertrophied tonsils.

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MICROSCOPY AND PATHOLOGY.

AN ADDRESS ON MICROBES AND DISEASE. Introductory to the Demonstrations in Bacteriology Given at the Annual Meeting of the British Medical Association, Held in Brighton, August, 1886. By Edgar M. Crookshank, M. B., Demonstrator of Physiology in King's College, London.

The medical man being interested more especially in those micro-organisms which are related to disease, it will be sufficient to give illustrations of the methods which are employed in investigating the life-history of the pathogenic microbes. It must not be supposed that it can be, or ever is, considered sufficient simply to discover, by the aid of the microscope, a micro-organism connected with a disease, in order to proclaim it as the actual cause of the disease. Even if we can, in addition, cultivate it apart from the diseased body, the mere fact of its being able to increase and multiply, and to exhibit peculiar microscopic characteristics, affords us no evidence whatever of its being pathogenic. From such evidence as this, conclusions would be only conjectural, instead of being based upon absolute proof. One cannot, therefore, too often repeat the necessary requirements for accepting the belief in a micro-organism as the *causa causans* of a disease.

To Koch we are indebted for laying down concisely what these requirements are. In the first place, the micro-organisms must be constantly found in the blood, lymph, or tissues of the diseased man or animal. To ascertain their presence, we must apply our knowledge of practical histology, augmented by many special staining reactions, and, in some cases, microchemical tests. in the second place, we must isolate the micro-organisms from the blood, lymph, or tissues, and cultivate them apart from the diseased body in suitable media, and we must carry on these pure cultivations through successive generations. To isolate and cultivate the microbes requires special apparatus, in some cases simple, in others complicated and expensive. It is at this stage of the inquiry that the investigator requires aid from his medical school or from the pathological department of his hospital, for otherwise the expense of the apparatus will probably be such a burden to his finances as to prohibit his prosecuting his researches. The suitable medium must be a pabulum which has been rendered free from all pre-existing micro-organisms. This is effected by sterilisation, by means of hot air or steam, in such apparatus as you have exhibited before you.

We will suppose that we are anxious to investigate some material, such as blood or pus, in which we suspect the presence of a micro-organism. We take a glass rod furnished at one extremity with a platinum wire; we deprive it of any micro-organisms which may have alighted upon it by heating it in the Bunsen burner; and then, as the platinum rapidly cools again, we can almost immediately dip the point of the wire into the material to be examined. This test-tube—which is, as you see, plugged with cotton-wool—is filled about one-third with a nutrient jelly. The tube being held mouth downwards, and the plug twisted out, the inoculating needle is steadily thrust into the jelly and withdrawn, and the plug replaced. These tubes, with their contained medium—nutrient gelatine, nutrient agar-agar, blood-serum, or hydrocele-fluid, as the case may be—are also perfectly germ-free. The tubes themselves have been cleansed and sterilised by a temperature of 150° Cent. (302° Fahr.) for an hour or longer, the cotton-wool sterilised by similar means, and the nutrient medium itself sterilised by exposure to prolonged heat, or by boiling on several successive days. If it were not so, the nutrient jellies would in a very short time fall a prey to bacteria of putrefaction, or, in simple language, "go bad." It is sufficient to introduce an invisible quantity of micro-organisms. Nothing will be observable immediately after the inoculation; but in the course of a day or two, according to the rapidity of the growth of the particular micro-organism, the temperature of the room, and the nature of the nutrient medium, the germs will increase and multiply in the needle-track, and produce some visible change. The resulting appearances are very varied. You have many examples before you; in some, there is the appearance of a white thread or a delicate cloud; or the medium has liquefied, or become milky, or tinged a pea-green, or smoky-brown; or a growth or deposit has resulted, of a blood-red, vermillion, purple, or yellow color.

The method first described is simple and effectual where we have to deal with the presence of one micro-organism; but, it may well be asked, what is the course of procedure if there be different species of micro-organisms present together? How can a mixture of micro-organisms be treated so as to isolate them one from another, and to test the properties of each? How can they be separated, so as to ascertain which are pathogenic and which harmless? In such a case, there is a method which is as simple as it is beautiful. Instead of inoculating our medium in the solid state, it must be first liquefied; and, when the mixture of microbes has been introduced, the inoculating needle is stirred round and round, and the test-tube tipped and rolled between the fingers. The microbes introduced become disseminated throughout the liquid medium; and, if the gelatine be poured out upon a small pane of glass, the individual microbes are fixed by the setting of the gelatine, each in a particular spot. In order to effectually separate from each other the different species of micrococci, bacteria, or bacilli which may be present, we must employ a method of dilution. A fresh tube of nutrient jelly is inoculated with a droplet from the first tube, a third tube from the second, and a fourth from the third. Then, in the so-called "plate-cultivations" prepared from these diluted inoculations, we shall find that the micro-organisms have been completely separated from each other. The colonies resulting from each microbe giving rise to its own species, will be so completely isolated as to leave no chance of their commingling. From these colonies we inoculate fresh tubes of nutrient media, so that at last we have growing in separate tubes all, or nearly all, the microbes present in the original mixture. The appearances of these colonies before inoculation should be carefully studied; for in some cases they are absolutely characteristic, and in others help to distinguish micro-organisms which resemble each other in form. As an example of a very beautiful and characteristic colony-growth, I would draw your attention to the impression preparations of colonies of anthrax and of several other micro-organisms exhibited under the microscope. The same method has also been extensively used for studying the various microbes in water; but we must remember that nutrient gelatine is not a suitable pabulum for each and every microbe; and we must, therefore, supplement our test by means of cultivations on other media.

As an example of another medium, I would point to the growths on sterilized potatoes. The outside of the potato is covered with microbes found in the earth, and these must be removed by thoroughly cleansing the potatoes, and soaking them in a solution of corrosive sublimate. When cut in halves with a sterilized knife, the cut surfaces present a germ-free soil, which is very favorable to the growth of many, particularly the chromogenic, species. The inoculating needle traced over the potato, with no immediate visible effect, will, in the course of a day or two, result in such a growth, for example, of the bacillus violaceus or micrococcus prodigiosus, that one might imagine that some violet or red ink had been spilt over the surface of the potato. These pigment-producing microbes are of the greatest interest; for, not only is there a wide field for research in the investigation of the chemistry of these pigments, but the very fact that these simple organisms are endowed with the power of producing such striking colors—are, in fact, miniature laboratories for the production of these beautiful pigments—helps us to understand that other species are equally capable of manufacturing the most virulent poison, or of inducing some chemical change, some fermentation in the blood or tissues, which produces a fatal result.

By such means having obtained a pure cultivation, we must carry it on through successive generations. The importance of the successive cultivation cannot be overestimated, for the process does away with the possibility of the fatal result being due to some chemical poison transferred from the material examined to the nutrient jelly. If, after carrying on cultivation through a hundred or a thousand tubes, the growth be as virulent as in the first tube, it surely cannot be held that the result is still due to any chemical poison mechanically carried over in the first inoculation, for the original fraction of a drop must have become diluted to such an extent as to be absolutely inert.

We must be able, with a pure cultivation, to reproduce the disease in question; and, lastly, we must be able to find the micro-organisms again in the blood, lymph, or tissues of the inoculated animals. It may be asked, Are there any micro-organisms which undoubtedly comply with all these requirements? And the answer is, Most assuredly there are. We may, indeed, very roughly divide the so-called pathogenic microbes into three great classes: first, those which absolutely answer these tests in every particular, and which are, therefore, undoubtedly the cause of disease; secondly, those in which the chain of evidence is not absolutely complete, but which we nevertheless believe to be the cause of the disease; and, lastly, those which are very probably only accidentally associated with disease. Of the first class, the bacillus of anthrax, the bacillus of mouse-septicæmia, and the micrococcus tetragonus, may be given as examples. In all these cases we can easily isolate the microbe; we can carry on any number of successive pure cultivations, and we can always reproduce the disease, and find the same micro-organism again. Of the second class, we may give as examples the bacillus of tubercule and of leprosy. In the case of the first the evidence is very strong, but the chain is not absolutely complete, in that in some cases of tuberculosis it is very difficult to demonstrate in tissue-sections the existence of the bacillus at all; and, therefore, until such cases are explained, or until it is more generally accepted that there are forms of tuberculosis etiologically different, of which bacillary tuberculosis is one, there will continue to be doubt in the minds of many as to the discovery of the bacillus being of any importance at all. So, too, with the bacillus of leprosy, the chain of evidence is incomplete, for the bacillus has not been cultivated apart, and the disease reproduced by inoculation; and yet, from the veritable invasion of the affected tissues by the bacilli, there can be but little doubt that the baccili are the active agents in producing the disease. Lastly, we have the class which includes many micrococci, bacteria, and bacilli, present, for example, in the mucous membranes of the respiratory and alimentary tracts, or in the skin, which have been described as characteristic of certain diseases, but about which we must have far more evidence before we can maintain that they are more than accidental associates.—*British Med. Jour.*

THE BACILLUS OF TYPHOID FEVER (TYPHUS BACILLUS OF EBERTH.)

In a paper on this subject read at the meeting of the Association of American Physicians at Washington, D. C., June 18, 1886, and published in the *Medical News* of August 4, Dr. George M. Sternberg having given a careful account of the researches of Eberth, Eisenberg, Gaflky, W. Meyer, Cornil, Babes, Fränkel, Simmonds, Brieger and others, proceeds to state his own views as follows:

The experimental evidence which we have presented, considered in connection with established facts relating to the propagation of typhoid fever, seems to the writer to be convincing as regards the etiological rôle of this bacillus. No other organism has been found, after the most careful search, in the deeper portions of the intestinal glands involved in this disease, or in the internal organs; on the other hand, this bacillus has been demonstrated to be constantly present. It is undoubtedly present during the lifetime of the patients, and is found in greater abundance in those cases which terminate fatally at an early date. It is not a putrefactive organism and is not developed in the tissues post-mortem, although it has been shown by Fränkel and Simmonds that it multiplies rapidly in the spleen after death, up to the time that putrefactive decomposition commences. This is quite in accord with what we should, *a priori*, have expected, in view of the facts relating to the propagation of typhoid fever. These facts indicate that the disease in question is due to a micro-organism which is capable of multiplication external to the human body in a variety of organic media, at comparatively low temperatures, and that it is widely distributed. From the endemic prevalence of the disease over vast areas of the earth's surface, we may infer that it is induced by a hardy micro-organism which forms spores. Eberth's bacillus complies with all of these conditions.

There are numerous facts which indicate that the development of an attack of typhoid and the severity of the symptoms depend to some extent upon the quantity of the infectious material introduced into the ailmentary canal. Milk or water which has been infected directly by the discharges of typhoid patients is especially dangerous, and there is reason to believe that repeated or concentrated doses of such infectious material may be effective when a single draught of the contaminated fluid, or a greater degree of dilution, would be innocuous.

Again, we have evidence that the typhoid germs may become effective as a result of certain favorable circumstances relating to the individual or to his environment. Those agencies which reduce the vital resisting power of the tissues, and especially exposure to the emanations from putrefying material to sewer gas, to vitiated air in overcrowded and illy ventilated apartments, etc., are recognized as favorable to the development of typhoid fever where the specific cause is present. All these facts seem to accord with the experimental evidence which indicates that the pathogenic power of the bacillus of Eberth depends upon the formation of a poisonous ptomaine rather than upon a special facility for multiplying in the tissues of a living animal. Indeed, it seems quite probable that its power to invade living animal tissues depends upon the toxic action of this ptomaine; or, it may be, of other ptomaines produced under certain circumstances in the body in excess, or introduced from without. Such toxic agents may serve when the specific germ is introduced into the intestine in comparatively small numbers to give it the mastery over the vital resisting power of the tissues subject to invasion, and thus to induce an attack of the disease.

HOSPITAL NOTES.

St. Thomas's Hospital—Two Cases of Fracture of the Base of the Skull; Recovery (Under the care of Sir W. MacCormac).—In the *Lancet* for January 16 of this year, p. 105, we published notes of a case of fracture of the base of the skull with extensive fracture of the bones of the face, followed by paralysis of the external rectus, and optic neuritis. The first of the following two cases may well be read in connection with that, for in extent of injury received, subsequent development of symptoms, and result, there is great similarity between the two. The case which we now publish, however, was complicated by the presence of a discharge from the ear of old standing, and probably of fœtid character, for it was not long before the hemorrhage from the ear, which ensued on the fracture, gave way to a profuse and very offensive purulent discharge (a similar discharge flowed from the nose), giving cause to fear the onset of septic meningitis or of pyæmia, a fear which was not allayed by the inflammatory swelling of the face and the formation of points of suppuration in or near the fractured facial bones. That basal meningitis ensued would appear from the condition of the eyes, but that it was of septic character is disproved by the temperature record and the result. These, also with the fact that the suppuration was limited to the fractures of the facial bones, and the absence of constitutional symptoms, negative pyæmia. The second case is chiefly remarkable for the very large quantity of cerebro-spinal fluid which flowed from the ear, which commenced soon after the injury and continued for ten days. That it was cerebro-spinal fluid was proved by chemical examination, the large quantity collected making it easy to apply tests. From the account it would appear that the cerebral symptoms were comparatively slight, severe headache being the most marked. It would come under the heading of the first group of cases (as arranged by Hewett), in which watery discharge from the ear occurs, and indicates fracture through the internal auditory meatus. It is usually a grave symptom.

Case I.—Fracture of the Base of the Skull, of the Bones of the Face, and Left Ulna; Suppuration at the Points of Fracture; Optic Neuritis; Recovery.—G. D.——, aged 9, a schoolboy, was admitted into Leopold ward on March 15, 1885, at 5 P. M., having been knocked down and run over by a carriage and pair about three-quarters of an hour previously. At the same time his companion, who had likewise been run over by the same carriage, was admitted with fractured base, but only lived two hours. When seen, the boy was quite unconscious, bleeding profusely from the right ear and both nostrils. The pupils were contracted, the left being smaller than the right. The eyelids and the surrounding parts were bruised and swollen, and there was hemorrhage under the left conjunctiva. The right mastoid process was bruised. There was fracture of the nasal bones, of the superior maxillæ with some separation, of the lower jaw in front of the left incisor tooth, the right half being displaced downwards. The left ulna was broken in the middle of the shaft there being free movement, with crepitus and considerable bruising of the part. The temperature was 95°, and the patient was suffering from shock. He had marked paralysis of the left side of the face. The head was shaved and an ice-bag applied to it. Two grains of calomel were administered. Anterior and posterior splints were applied to the forearm.

March 16.—The calomel had acted and the patient was better, answering "Yes" and "No" to questions, but was very irritable. Pulse 136; temperature still low (97°). The discharge from both the nose and ears was purulent and very offensive. On inquiry it was found that the boy had a discharge from the ears before the accident, which had existed since childhood. There has been no vomiting since admission.

17th.—The tissues over the right mastoid process are œdematous. The left eye is almost closed by swelling. Ophthalmoscopic examination of the right fundus showed commencing optic neuritis with retinal hemorrhages. Pulse 120. Temperature 98°, last night 95.6°.

18th.—The patient is more irritable. The scalp and forehead are very œdematous, and there is a well-marked depression on the left side of the frontal bone. There is more discharge from the nostrils. Temperature 100.6°.

19th (evening).—The patient is more conscious and complains of headache, is very drowsy, less irritable, and has been quiet during the day. The left eye is closed by œdema, which extends to the left side of the face. The right optic disc is much swollen. The tongue is very dry, the mouth being kept open for respiration, as the nostrils are blocked by the discharge. Bowels acting freely after medicine. Passes urine when induced to do so, otherwise retains it, as much as thirty ounces having been passed at one time. Pulse 104; respiration quiet. Breath very offensive.

21st.—The inflammatory œdema has spread down the left side of the face, which is fixed by it. Is quite sensible, and answers questions when roused; complains of headache, and is drowsy. Pulse 96. Ordered five minims of tincture of opium every six hours.

23d.—The swelling on the left side of the face is less, and he is able to open the left eye slightly. Left facial paralysis very marked. Tongue very dry. He slept after a small quantity of morphia administered subcutaneously, but was whining occasionally during the night. Pulse 88. There is slight occasional twitching of the right side of the face.

24th.—The facial paralysis is less marked, and there is no twitching of the right side of the face. Pulse 76, quiet and full. Temperature 99° to 99.8°; last night, 100.2°.

26th.—Has continued to improve. The discharge from the nostrils has almost ceased, but that from the right ear is profuse. The inflammatory swelling of the face has much diminished, and the patient opens the left eye. There is fluctuation in the upper eyelid.

28th.—The facial paralysis is still very marked. There is paralysis of the right external rectus muscle, with considerable internal squint. The left eye turns inwards when he attempts to look upwards; the right acts normally in that direction. There is now suppuration over the right mastoid process, behind the ear, in the left upper eyelid, and under the symphysis menti on the left side, which does not apparently communicate with the fracture of the lower jaw, there being a free discharge of pus from that into the mouth. Temperature, morning, 98.2°; evening, 98.8°.

April 3d.—Hammond's splint was applied to the jaw, chloroform being administered for that purpose. There is a hole in the posterior part of the hard palate admitting the finger, and two pieces of necrosed bone were removed from the roof of the mouth.

4th.—The abscesses below the jaw and behind the right ear were incised.

11th.—He is now emaciated and pale; sleeps well, but sometimes cries out in his sleep; an occasional dose of tincture of opium (five minims) is required. He is very deaf on both sides, only hearing a watch on contact. For the last fortnight there has been at intervals an offensive discharge from the left ear. The discharge from the right continues, and also that from the incision over the mastoid process, water passing from one to the other on syringing. An abscess has formed over the left malar bone. The paralysis of the face and eye is still marked. The patient takes food well. Aperients are occasionally required.

17th.—Ophthalmoscopical examination of the eye showed the right disc to be pale, with little if any swelling, but outline indistinct. Vessels only slightly tortuous.

23d.—The eyes can be moved in any direction, and there is still an internal squint visible.

May 2d.—Splints removed from the forearm; union good.

5th.—The boy is now able to sit up in bed and feed himself, all the wounds being healed, excepting the one over the fractured jaw.

18th.—There is not much change in the facial paralysis. The right eye usually looks upwards and inwards, but both eyes can be moved in any direction. The hole in the hard palate has almost healed. There is still a sinus over the seat of the fracture of the lower jaw.

This sinus closed before the patient left (June 3d), but the facial paralysis persisted. He was still deaf. He was in the hospital eighty days. The highest temperature during this time was 102° on the evening of April 21st.

CASE 2. *Fracture of the Base of the Skull*; *Continuous Discharge of Cerebro-spinal Fluid from the Ear for Ten Days; Recovery.*—B. G——, aged twenty-five, a carpenter, was admitted into the Leopold ward, under the care of Sir W. MacCormac, on July 2d, 1885. A short time before admission a plank fell on the back of his head, knocking him down and rendering him insensible for ten minutes. He bled from the right ear profusely. When examined he was found to have a red mark on the back of the head where he had been struck. His pupils were equal and acting to light. He was quite conscious, complaining only of headache and vomiting (which was severe), lasting until the following morning, when it ceased. There was a profuse discharge of watery fluid tinged with blood flowing from the right ear; temperature 95.8°. His head was shaved, an ice-bag applied to the head, and a smart purgative administered.

July 3.—Retention of urine; the urine drawn off twice a day with the catheter, any straining causing the discharge from the ear to flow more freely. Bowels acting. Temperature, morning, 98.8°; evening, 101.8°.

4th.—Complains of a splitting headache. Tongue furred and white. The temperature rose from 101.4° at 2 A.M. to 104° at 8 P.M.

6th.—The discharge from the ear is very profuse, saturating the pillow. During the course of two hours and a half, no less than one pint and a half of fluid, having a greenish tinge and the reactions of cerebro-spinal fluid, flowed from the right ear.

7th.—The headache, which is chiefly occipital, is now comparatively slight. He is much improved and quite intelligent. Pupils equal and acting to light. The fluid is not flowing so freely; it is still clear. He only hears a watch on contact. There is slight extravasation over the right mastoid process. Tongue furred and white. Bowels acting after medicine.

10th.—Headache less. He can sleep without a chloral draught, which has been required on other nights. Pulse 72.

12th.—The discharge from the ear ceased in the afternoon. The temperature, which had been 100° at noon, rose to 103° in the evening; it has usually reached 103° or passed this point in the evening.

13th.—The eyes were examined with the ophthalmoscope. There was no optic neuritis, but a peculiar rosy appearance of the fundus, without evident dilatation of vessels.

15th.—He was not so well after the discharge ceased, there being much headache and pain in the back of the neck and flushing of the face. The headache was very severe, making him cry out with the pain. He became delirious and noisy. Pupils continued equal, and acted to light. Last night and this morning he has been better, having very slight pain, excepting on sudden movement, which immediately brings it on.

18th.—There is now no pain or headache, but only slight and momentary giddiness if the patient bends forward. He is otherwise quite well.

24th.—There is now very slight giddiness on bending forward.

On the 14th the lowest temperature recorded since admission (99°) was registered; on the 15th it reached 101°, and on the 16th 100°. After this it did not again exceed 99° on the 18th, becoming normal on the 19th, and continuing so. The man was in the hospital fifty-five days.—*Lancet.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches
1 decametre	"	10	metres
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water.
1 centrilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl drachm water at 60 deg. F.		56 96-100ths grains.
1 fl oz. " "		455 69-100ths "
1 fl gallon " "		231 cubic inches.
1 fl pint " "		28 87-100 "

TEMPERATURES.

Centigrade.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

Reaumur.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

Calomel as a Diuretic.—Dr. Ernst Jendrássik, assistant to Prof. Wagner, of Budapest, has created a genuine surprise by his exposition of a virtue residing in calomel which has hitherto remained wholly unknown. In fact, though some elder writers recommend calomel in dropsy, and also allude to a certain diuretic action of the drug, this property is not even mentioned by any of the text-books at present in use. Wherever calomel is now being used in the treatment of dropsy, its drastic action alone is taken into consideration. Being called upon some two years before to treat a case of dropsy, in view of the wholly obscure causation of the affection and the strong suspicion of a syphilitic basis our author instituted a mercurial treatment, beginning with inunctions of blue ointment, soon followed by small doses of calomel in combination with jalap. Scarcely two days had elapsed after the calomel treatment, when the urine was voided in such quantities that the dropsical infiltration completely disappeared in a few days. A relapse of the dropsy a couple of weeks later was with equal promptness cured by the exhibition of calomel and jalap. This discovery, of course, led Jendrássik to further researches in dropsical cases, in which the diuretic action of the drug was distinctly established. Our space, however, prevents us from publishing the clinical records of seven other cases of dropsy, the recovery of which is definitely traced to the powerful diuretic action of calomel.

Calomel was generally given combined with jalap, though this addition is of no importance. Urination increased up to 9500 c.c. in twenty-four hours, the polyuria usually being proportional to the extent of the œdema present. Jendrássik found that 3-grain doses, given three to five times daily, showed the promptest effects. It is important and interesting to note that the diuretic action of calomel only shows itself simultaneously with the appearance of the symptoms which indicate the absorption of the mercury. The diuresis appears three days after having taken the drug, and persists until the œdema has completely disappeared. Control experiments proved that, in the combination doses of calomel and jalap, the diuretic effects referred alone to the first constituent, as the latter never produced these results when given alone. The degree of the diuresis was found to be dependent upon two factors—first, upon the size of the dose ordered; and, second, upon the extent of the dropsy present. It was observed that the diuretic effects proceeded *pari passu* with the manifestations of mecurial absorption, such as metallic taste in the mouth, increased salivation, stomatitis, etc.

Many of the observations of Jendrássik are too interesting to be wholly omitted. Employing doses of two to three grains of calomel, he invariably obtained the diuresis, while larger doses, six to seven grains, always failed. Our author justly concludes that in this, as in other instances, the effects of a medication depend not upon the amount of medicine ingested, but upon the amount absorbed. In the instance of calomel, larger doses provoke diarrhœa, and thus, to a large extent, prevent the absorption of the drug. But little time appeared to intervene between the taking of calomel and the appearance of its diuretic effects. If given in the proper dose, the diuresis appeared usually within a couple of days. At the same time it was noted that a certain quantity only of calomel was required to effect the diuresis, and that any further surplus was wholly ineffectual, especially when polyuria had already set in.

The author can give no clue to the manner in which the diuretic action of calomel in dropsy is effected, since neither the heart nor the kidneys are directly influenced. Experiments made with calomel (and also with jalap) on healthy individuals remained wholly negative; stomatitis and salivation set in, but no polyuria. The same failure was obtained in a case of pleuritic exudation with diminished urination. Still, the hypothesis (as a result of exclusion of other modes) is ventured upon that the primary factor in the diuretic action of calomel is the resorption of the œdematous fluid by the blood.

In high grades of dropsy depending upon heart disease, the drug evolves its highest diuretic powers; in cases of slight œdema, in pleurisy, and in the œdema of kidney disease, the drug fails.

In conclusion, the undesirable after-effects of calomel, such as diarrhœa and stomatitis, are briefly referred to, and means suggested to obviate them. Against the diarrhœa a small dose of opium (1-7 grain) acts as a sufficient check, without influencing the diuresis. Stomatitis is to be met by the use of chlorate of potassium given as a gargle, or, if this be insufficient, internally (12 grains daily). We have before in a previous issue (July 15, 1886) alluded to Jendrássik's results, but his recent studies seem to entitle his views as to the diuretic action of calomel to marked attention.—*Therapeutic Gazette.*

INTUBATION OF THE LARYNX.—Intubation of the larnyx is attracting a great deal of attention at present as a substitute for tracheotomy, and we have in several issues alluded to the results obtained by this mode of procedure in the hands of different physicians since it has been introduced by Dr. O'Dywer, of New York. It may not be out of place to again give the methods employed, and this procedure as recommended by Dr. Ingalls: The child should be wrapped in a sheet or shawl, which will pinion the arms, and then held upright in the nurse's lap; an assistant holds the child's head. The gag is then introduced between the jaws, and opened as wide as need be, but not with great force. Dr. O'Dywer says that it is unnecessary to use the gag with infants who have not back teeth. The physician, sitting in front of the patient, passes his left index finger over the base of the tongue and down behind the epiglottis, and with it guides the end of the tube into the glottis. The handle of the applicator should be held near the child's sternum until the end of the tube has reached the pharyngeal wall, when the handle is rapidly elevated, and tube directed downward and forward along the index finger into the larynx. This will not be found difficult, but the infant's epiglottis is so small and flaccid that the operator may not be able to recognize it, though he will have no difficulty in recognizing the larynx as a whole, which, except that it is slightly irregular, feels much like the end of one's little finger. The operator should not expect to detect the opening of the glottis, but must be guided by his anatomical knowledge to pass the tube into the centre of the larynx. Unless he is careful to carry the handle of his instrument high, and thus bring the tube as far forward towards the base of the tongue as possible, the tube will pass into the œsophagus. While it is desirable to accomplish this portion of the operation as quickly as possible, it should not be done with too great haste. Ten or twenty seconds, which is a long time for this portion of the operation, may be taken without danger. If the tube is not then introduced, it should be removed for a minute or two, to allow the child to breathe, and then the operation may be repeated; but if the tube seems to be in the proper position, whether the operator is certain of it or not, the slide upon the handle should be crowded forward, so as to disengage the obturator, which is then withdrawn. Some cough will occur at once, and if the tube has not been inserted into the larynx, or if it has not been passed down so that the rim rests on the vocal cords, it is likely to be expelled, and may be seen or felt in the back part of the mouth. If the tube has been properly inserted, respiration will become easier, and after a few minutes the operator cuts one end of the silk thread, passes his finger behind the epiglottis, and holds the tube while the thread is withdrawn.

Dr. Davidson (*Buffalo Med. and Surg. Journal*, July, 1886) has also employed this procedure, and he agrees with Dr. Waxham, who has had by far the largest number of operations up to this time, as to the following advantages which intubation possesses over tracheotomy:

1. No opposition is met with on the part of the parents—quite a contrast with the difficulty which we usually meet with in obtaining the consent to tracheotomy.

2. It relieves the urgent dyspnœa as promptly and as effectually as tracheotomy, and, if the child dies, there is no regret that the operation was performed, and no discredit attached to the physician.

3. There is less irritation from the laryngeal tube than from the tracheal canula. As the tube is considerably smaller than the trachea, it does not press upon it firmly at any portion, excepting at the chink of the glottis.

4. Expectoration occurs more readily than through the tracheal tube.

5. As the tube terminates in the throat, the air that enters the lungs is warm and moist from its course through the upper air-passages, and there is less danger of pneumonia.

6. It is a bloodless operation.

7. It is more quickly performed, and with less danger.

8. There is no open wound, which may be the source of constitutional infection.

9. Convalescence is more rapid, and there is no ghastly wound to heal by slow granulations.

10. The patient does not require the unremitting care of the surgeon as in tracheotomy.

11. It as yet seems to be a more successful method of treating croup, either diphtheritic or membranous, than tracheotomy.

There are, however, certain disadvantages connected with it, and these are formulated by Dr. Davidson as follows:

1. The difficulty of inserting the tube. This, though admitted, is certainly less than tracheotomy.

2. That the tube may become blocked with mucus or membrane. The recorded experience in thirty-seven cases would indicate that this does not occur, because—and this is one of the marked advantages of tubage over tracheotomy—the patient has the ability to compress the air in the lungs and expel it with an explosive force; in other words, to cough—thereby clearing the tube.

3. That the tube may slip through into the trachea. If too small a tube is used, this may happen, but, from the length of the tube, it cannot sink out of reach, and may be removed by the mouth or by tracheotomy.

4. That the child cannot swallow well. This is true only of fluids, and it is necessary to avoid giving liquids by the mouth. A few drops will trickle into the trachea and cause violent coughing, and this irritation will often lead ito pneumonia. Dr. Waxham has devised a feeding bottle for young infants, and it may be necessary to use a small-sized œsophageal tube in some cases.

5. The canula may be coughed out in the absence of the physician, and death ensue before he can be summoned to reintroduce it. This danger is not nearly so great as that which attends the wearing of the tracheal tube.

It seems as yet too soon to pronounce absolutely upon the merits of this operation, but there seems to be already accumulated sufficient evidence of its success to entitle it to a trial in cases where tracheotomy is the only other resource.—*Therapeutic Gazette.*

AN EASY METHOD OF PLUGGING THE POSTERIOR NARES. By Francis L. Haynes, M.D., Philadelphia.—A piece of fine silver wire, fifteen inches long, is doubled; the closed end is left rounded and the free ends are neatly twisted together. A slight bend is given to the bar thus formed. A stout thread, twenty-five inches long, is tied to the twisted end. The patient sits in front of the physician, his head thrown slightly backwards, so as to make the passage of the wire into the pharynx more easy. The parts are illuminated by the forehead mirror, unless a good supply of daylight can be used. The blunt end of the wire (with the concave aspect downwards) is pushed along the floor of the nasal passage, and through the naso-pharynx, until it is seen in the pharynx, the patient assisting by holding the tongue with a depressor. The end of the wire in the pharynx is now grasped by Gross's polypus forceps, the fingers, or anything else convenient, and pulled through the mouth. The thread is cut, and a piece of absorbent cotton, slightly compressed, large enough to fill the posterior nares, is tied to it, about ten inches from its mouth end. The tampon is pulled into position by drawing on the nasal end of the thread. The plug is generally caught by the edge of the soft palate, but can easily be guided past it by the finger. The nasal and mouth ends of the thread are tied together, so as to form a loop, which is hung over the nearest ear, so that it may be out of the road. In a recent case, not happening to have any wire with me, I managed very well with a piece of straw from a broom, one end of which was bent over into a rounded loop and tied thus, so that it might not catch in the mucous membrane. The nostril is then obstructed, if necessary, by means of a mass of cotton, which will readily stay in place without tying.

If it can be avoided, the tampon should not be left in place more than three hours, as its presence is exceedingly uncomfortable to the patient, whose strength rapidly fails under its use. By carefully noting which nostril pours forth the greatest quantity of blood, one side may generally be left patent, to the great advantage of the sufferer. I generally allow the patient to remove the plugs himself, and he is requested to do this gradually, first the anterior, and fifteen minutes after the posterior plug, by gently pulling on the string issuing from the mouth. The removal is timed so that it will precede by a short interval a professional visit, so that the physician may determine whether it is necessary to renew the plugs.

In cases of intermittent nose-bleeding in anæmic subjects, the thread lying in the passage may be renewed by tying a fresh piece to the one that has become foul, and thus left for twenty-four hours or more, ready for a fresh attack. The presence of the thread is but slightly inconvenient, not interfering with eating or drinking. An intelligent attendant can readily be taught to draw the plugs into position, and during the intermission the patient can enjoy the luxury of breathing through his nose. This procedure may be executed with so much ease and rapidity that there is less excuse for the prolonged presence of the plug than when the barbarous instrument known as Bellocq's canula is used. The plan of packing the nasal cavity (suggested by an eminent authority), by a long piece of lint pushed in from the front, I have found inefficient, difficult, and very uncomfortable to the patient. The removal of a plug thus placed is almost sure to provoke fresh bleeding. An additional advantage is that the nasal passage can be traversed by the wire, notwithstanding extreme deviation of the septum.

This little operation should be preceded by the free use of cocaine spray to nose and pharynx, which will entirely prevent gagging, and it is to be hoped will prove by further experience to be in itself a valuable hæmostatic.—*Therapeutic Gazette.*

EUCALYPTUS IN TYPHOID AND OTHER FEVERS (Leighton Kesteven, Brisbane, Queensland, in the *Practitioner*).—Whilst resident surgeon at the Brisbane General Hospital, the number of cases of typhoid fever was very considerable, there being an absolute epidemic in the town at the time, with a proportionate mortality, and the idea then occurred to me that if the oil of eucalyptus was such an efficient disinfectant as it has lately been demonstrated to be, its germicidal properties might be equally efficacious internally. That is, that if typhoid fever owed its existence to specific germs, such a sure germicide as this should be the true remedy for the disease by destroying its cause.

Acting on this idea a mixture was given containing eucalyptus in tentative doses of from two to five minims of the oil, made up into an emulsion with mucilage. From these doses I fancied that benefit was obtained, but from various circumstances I was unable to give it the thorough trial which I believed it deserved, and shortly after its commencement I left the hospital and went into practice in Brisbane when the epidemic was at its worst; I immediately gave it the fullest trial, giving it in every case of typhoid which came under my care. A large and wide-spread practice which I obtained immediately deprived me of the necessary time for taking methodical notes of my cases, and I can only give a general sketch of the results.

Of 220 cases of typhoid which I attended in about eighteen months, there were four deaths only, and of these there was in every case an unfavorable circumstance. No. 1 was a woman of fifty years of age whom I had attended about three months previously for an attack of inflammation of the bowels following on neglected constipation causing obstruction; and notwithstanding my previous warnings I believe she had allowed the same state of affairs to go on again, as on the first appearance of the typhoid I found her bowels again loaded with scybala, and therefore her whole system was unfitted to cope with any severe illness. No. 2 had been ill for a fortnight, and delirious for a week, before I was called in, and died the next day. No. 3, a boy of five years of age, was little more than skin and bones from an attack of scarlet fever a few months previously; and No. 4 was a hopeless case handed over to me from a medical friend, much more like typhus than typhoid.

Larger doses than I mentioned as being given at the hospital I found to be necessary to give perceptible results, and I now give ten minims every four hours. Without being absolutely nauseous, however, this medicine does not agree well with all stomachs, but this difficulty can be entirely overcome by careful emulsification, and the addition of half a drachm each of aromatic spirits of ammonia, spirits of chloroform, and glycerine, the latter entirely removing the rough semi-resinous taste of the oil.

The effects of this medicine are, in brief, the following: First, it steadily and permanently reduces the force and frequency of the pulse. Indeed, in one or two cases I noticed this result obtained with almost marvellous rapidity; in one case in particular, the pulse, from being a sledge-hammer pulse of 120, went to 90 within an hour of the first dose of the medicine, and never went above 90 again. Secondly, lowering of the temperature. This occurs less rapidly, and (it has occurred to me) might be entirely secondary to, and dependent on, the lowering of the pulse.

Thirdly, the beneficial effect on the tongue is very marked, almost immediately alleviating the distressing dryness so universal in typhoid, and removing the thick brown coating, leaving but proportionately little fur, and frequently cleaning the tongue entirely in a very short time. I have seen it have an almost magic effect in this direction. In one case I was called in to, I found a young fellow of about twenty-five years of age on the seventh day in bed, in a state of low muttering delirium, with a brown leathery tongue, dry as a board, and with bloody sordes on teeth and lips. I gave him the above mixture (ten minims ol. eucalypt. every three hours), and on my visit the next morning teeth and lips were clean, and tongue moist, and with nothing more than a slight yellowish fur, and the man perfectly reasonable and collected. I should add here that I ordered an ounce of whiskey every hour in soda-water and milk (this latter I regard, however, as merely an adjuvant to the medicine), and constant cold packing.

Fourthly, the skin, along with the reduction in its temperature, becomes moist and soft, in contrast with the harsh, dry, hot skin so frequent and persistent, conferring a corresponding increase of comfort to the sufferer, who has previously felt as if his skin had been drawn tight all over his body. This alone is a boon to the patient of no small import.

Having now stated what I believe to be the four principal actions of this medicine, I wish to give a general sketch of the diet and concomitant treatment adopted. First and foremost I pin great faith to the most liberal administration of free alcohol, whisky (Thompson's "Royal Blend," as being of uniform purity) being the form I order it in. I have given as much as thirty ounces in the twenty-four hours, and firmly believe that the thread of life was only held together and the crisis (of high delirium and thready pulse of 140) tided over by such an heroic plan of administration. In all severe cases I order whisky from the commencement of the case till normal temperature is attained, giving on an average five to ten ounces per diem, usually in milk and soda-water. In ordinary cases I feed the patient on milk thickened with isinglass, beaten-up eggs, milk and soda, cocoa, and—where diarrhœa exists—ground rice and milk. In asthenic cases chicken-broth (concentrated to ten ounces of clear broth from a whole fowl), given in ounce doses to avoid filling the stomach with too large a quantity of fluid for weak digestion, the juice of half-cooked mutton, or beef-tea made in a pot without water and strained through fine muslin.

For the abdominal tenderness frequently changed ice-cold compresses, and ice to suck; ice to the shaved head for cephalalgia; and frequent cold packs from the head to the knees at any rise of temperature. All the linen is changed morning and evening, without ever altering the patient from the horizontal position. All nourishment given in small quantities at short intervals, thus receiving better digestion than when given in larger quantities at longer intervals. The diet and nursing, however, I have always considered as by no means of secondary importance, and I have at times been almost tempted to doubt whether by my strict attention to this I was not merely following out the plan of those who assert that not only is no medicine required, but it is absolutely mischievous, and that my new remedy was a delusion, an inert nostrum, until, to put it to the test, I have in different cases progressing well suddenly discontinued the medicine and seen all the unfavorable symptoms return directly, and then I have been re-converted, confirmed in my faith.

To those who would still assert as above that it was the nursing and diet to which any success that has followed this line of treatment has been due, I answer that, given the same number of cases, and the same dietary and other measures without the eucalyptus, you will not, and have not hitherto, obtained a rate of mortality which—taking the nature of the four fatal cases into consideration—is practically *nil;* and I would (as basing the claim of special virtue to this medicine on no scientific evidence, but merely on the ground of conclusions drawn—possibly hastily—from the results of practice) urge that thorough trial should be made of it, and the results of more thorough investigations published.

In comparing the action of eucalyptus with quinine as an antipyretic one very important point must be borne in mind, and that is that, though quinine in large doses lowers the temperature very rapidly, there is an invariable subsequent rise, whilst when once we have obtained the reduction after the administration of eucalyptus, it is permanent and steadily continues going down, till the normal is arrived at, though this result is not so rapidly obtained as by quinine. *How* this result is obtained I am unable to do more than conjecture, my idea being that it is purely by its action as a germicide striking at the root of the mischief, thereby depriving the fever of its power. Of course, on the other hand, it may be similar in its action to alcohol (as advanced by Schmeideberg), by retarding the oxidation; or by dilatation of the cutaneous vessels extending the cooling area, as Fothergill has it; or by some effect upon the nervous system; but, by whichever mode it acts, its true properties remain to be demonstrated. The extraordinary shortening of the duration of the fever which it effects is most notable. I have (as I mentioned above) as a matter of practice kept my patients in bed for the traditional twenty-one days, but under its effects the duration of the fever has been that length in but very few cases, the tenth day being just as often the termination of the elevation of temperature.

Experimentally I have given this drug in two or three cases of pneumonia with the most marked benefit.

LANOLIN.—The wool of sheep, as taken directly from the animal, contains considerable quantities of fatty substances which have to be removed before the wool can be utilized. Formerly this fat was simply thrown away, and only recently—thanks to the economical tendency of our days—it has been collected and put to practical uses. Hartmann and Schulze were the first to chemically investigate this so-called wool-fat, and to demonstrate its actual composition, viz., ethers of fatty acids and cholesterin.

Liebreich went a step further, and showed that cholesterin fat occurred in all keratine tissues (skin, hair, whalebone, feathers of geese, chickens, etc.). Liebreich also showed that the cholesterin fat was not, as hitherto believed, secreted by the sebaceous glands, but was formed in and simultaneously with the keratine tissue. Lanolin, the cholesterin fat of the market, contains about twenty-five per cent. of water, and differs from all other fatty substances chiefly in resisting saponification and the influence of water. Hence lanolin has no tendency to become rancid.

Dietrich pointed out the therapeutically important fact that lanolin can take up a large amount of water (up to one hundred and ten per cent. of its weight) without losing its suppleness and ointment form, while unguentum paraffini under equal conditions can take up only four, adeps suillus only fifteen per cent. Equally readily can lanolin be incorporated with fats, oils, balsams, and most medicinal bases, furnishing ointments of a hitherto unattained efficacy and constancy.

The principal value, however, of lanolin consists in its unrivalled resorbability, insuring for the medicines incorporated with it the maximum amount of attainable efficacy. At the same time, it is certain that lanolin does not in any way injure nor irritate the skin.

Dr. Lassar has exhibited lanolin at his polyclinic for skin diseases in Berlin in about four hundred patients, and regards its introduction into the Pharmacopœia as a desirable acquisition. Reporting his observations on lanolin in the December issue, 1885, of the *Deutsche Mediz. Wochenschrift*, Lassar pointed out the remarkable readiness of its absorption, and among other advantages of the drug mentions its minute distribution, which even allows of the entrance of cinnabar-lanolin into the deeper strata of the integument. Under the influence of lanolin, Lassar says, the skin assumed a peculiarly tense condition, a state of turgescence which favors absorption of medicinal agents. Lassar also demonstrated to the Society of Physicians of Berlin, by microscopic specimens, that cinnabar and mercury allowed of a much finer distribution when combined with lanolin than with adeps.

If the skin is tender and irritable, lanolin does not cause œdematous swelling nor any other untoward symptom, as often observed under the influence of other fatty substances. The power of lanolin to penetrate into the deeper strata of the skin renders this agent peculiarly eligible in psoriasis, herpes tonsurans, chronic dermatitis, and the numerous skin-diseases marked by a callous condition of the epidermis. Again, the stated peculiarities of lanolin render it admirably fitted for the application of chrysarobin, pyrogallic acid, salicylic acid, naphthol, the preparations of mercury, resorcine, iodide of potassium, and sapo viridis. In this connection we recall the researches of Dr. Patschkowsky with lanolin and potassium iodide; he proves that one-half to one hour after the inunction iodine could be recovered from the urine, while the experiments with the officinal ointment of iodide of potassium resulted negatively. Kaspar, of Geneva, obtained similar results.

Prof. Frankel, of Berlin, recommends lanolin ointments for application to mucous membranes, for he found them to prevent the formation of scabs and to diminish purulent secretions. Prof. Röbener noted also the superiority of lanolin in combination with preparations of mercury, sulphur, and tar. A five per cent. carbol-lanolin ointment has been found by Dr. Herrlich (of the German army) to produce local anæsthetic effects (*Pharm. Zeitung*, 1885, p. 978). In Berlin, lanolin has been successfully tried in ischias (combined with ichthyol), in ichthyosis, in hemorrhoids and burns (combined with cocaine).

In conclusion of these remarks, we state that in the majority of instances it will be necessary to add twenty per cent. of lard to lanolin in order to correct its consistency.—*Therapeutic Gazette.*

POISONING BY WOOD-SORREL.—On June 15, an inquest was held at Gravelly Hill, touching the death of Edward Arthur Geary, aged five years. From the evidence, it appears that deceased ate a "large quantity" of green sorrel (sorrel dock, Rumex acetosa); that next morning, feeling dazed and thirsty, he drank some soap-and-water which stood at hand; and that shortly afterwards he became unconscious and died at five in the evening of the same day. Now, the active poisonous agent in sorrel is oxalic acid, but from personal knowledge and experience we can say that a very considerable quantity of the leaves may be ingested without producing unpleasant, much less dangerous, symptoms. The theory of the medical men engaged in the above case was that the alkali of the soap combined with the acid of the leaves and formed soluble salts of sorrel, which caused the fatal toxic symptoms. We are inclined to think that such combination may have occurred, but whether potassic or sodic oxalate was produced in quantity large enough to cause lethal effects we are somewhat skeptical. It may have been that the poisonous action, owing to slow absorption of oxalic acid from the partially digested leaves, had commenced, and that the symptoms were intensified by the alkaline oxalate. It is a question of toxicological significance, and one well worth working out in the laboratory. It is an instruction in cases of oxalic acid poisoning not to give alkalies on account of the highly poisonous action of the salts generated. Lime forms an insoluble oxalate, and is thus indicated. Theoretically the case seems on paper to be complete, but we should require to be assured that other and, as it seems to us, more probable causes of death had been eliminated before we accepted the verdict of the jury, although it was in accordance with the medical evidence. Neither Taylor nor Guy makes mention of poisoning by sorrel leaves, either alone or in combination with alkali. We should like to know whether the fluid the child drank was simply *soap-and-water*, or a solution of soap less, which might contain a fatally poisonous dose of carbonate of potash. Subject to correction, we are disposed to believe that the death was owing to the "soap-and-water," and that the sorrel leaves had but little to do with the unfortunate event.—*Lancet.*

~~THE~~ TREATMENT OF PAINFUL FISSURE OF THE ANUS, ~~WITHOUT OPERATION~~ (~~A. D. Macgregor, M.B., in the *British Medical Journal*).~~—J. T., a coachman, aged 56, had, for eighteen months, suffered such agonizing pain during defecation, that an enforced habit of constipation was established. From time to time, he relieved his bowels by enemata, first taking a large dose of laudanum to aleviate his sufferings. On examination with a speculum, I found a fissure, nearly an inch in length, with irregular edges and an indurated base.

The sphincter was much hypertrophied, and contracted powerfully and spasmodically during the examination. I ordered a full dose of castor oil, with some rhubarb for its secondary astringent action, forbidding the customary laudanum. When this had operated, I had the bowel well washed out with an enema containing Condy's fluid. This done, I passed the speculum, and painted the fissure with a solution of chloride of zinc (twenty grains to one ounce); then introduced a piece of lint, smeared with boric ointment, the contraction of the sphincter keeping it in contact with the sore. The bowels were kept in check by pilula plumbi et opii. Liquid food only was allowed. The subsequent treatment consisted in the use of a powder (powdered boric acid, half a drachm; violet powder, one ounce), which was sprinkled freely on lint, and introduced into the anus to dry up any discharge, and the continued use of the boric ointment. By these means the fissure was entirely healed in six days, and there has been no return of the symptoms.

I have always found one application of chloride of zinc enough; it usually causes some smarting and uneasiness, but nothing more effectively purifies the ulcer or stimulates the reparative process. The introduction of cocaine robs the operative procedure of one drawback—the necessity of taking an anæsthetic; yet I may recommend a trial of this treatment, at least in the case of those who have an innate horror of anything approaching "cutting."

(Dr Macgregor in Br Med J

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

THE FIFTY-FOURTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, held in Brighton, August 10th, 11th, 12th, and 13th, 1886. PRESIDENT'S ADDRESS, by Withers Moore, M. D., F. R. C. P.

THE HIGHER EDUCATION OF WOMEN.

After an appropriate introduction, Dr. Moore proceeded to say:

This, then, is our question. Is it for the good of the human race, considered as progressive, that women should be trained and admitted to compete with men in the ways and walks of life, from which, heretofore (as unsuited to their sex), they have been excluded by feeling and usage, and largely, indeed, by actual legislation? Will it be well that we should have female doctors and divines, lawyers, mathematicians, and astronomers, professors, publicists, and Ministers of State? Might not one add, female generals and commanders of armies? For Amazonion ambitions are still alive: witness the Dowager Maharanee of Baroda's recent offer to the Viceroy of India, of a corps of women warriors, to aid him in solving the Afghan frontier difficulty. "The fighting capabilities," said this Oriental vindicator of the rights of women, "the fighting capabilities and horsemanship of the Mahratta ladies can be no secret to your Excellency; and I hope that the offer which I make, and which I am prepared to carry out at the shortest notice, will be accepted, and that it will prove a precedent to the ladies of

India and of England, and show the prowess with which the female race is capable of bearing arms, and that they can fight side by side with the military forces of the empire." Will it be well, then, that our women should be equipped and encouraged to enter into the battle of life shoulder to shoulder and on equal terms with men? Do the "rights of women," does "justice to women," demand it? Do the "duties of women" (due to the whole human race, and to their own sex and selves, as a part of that whole) admit it?

The old chivalrous idea, certainly, was a very different one. It was that sweat of the brow and sweat of the brain should be mainly masculine—that man should go forth to adventure and achievement, "to his work and to his labor until the evening," while woman should wait at home and welcome him back again, and lend her ear to his tale of doing or of suffering, and reward him with her gentle sympathy and loving appreciation.

"She loved me for the dangers I had passed,
And I loved her that she did pity them."

To the men of "the old time before us," those words of Othello's seemed merely natural. Their thought was, not that woman should have her fair chance with man in the battle of life, but that she should be shielded and sheltered from that rude battle, if possible, altogether; that man should fight it for her. But, if we are to "change all that," then those who enter into the conflict where cuffs are going—man or woman—must be content to be cuffed, and to cuff back again; and the age of chivalry and chivalrous courtesy (so far as woman is concerned), with all which that courtesy did to make life noble and beautiful, must indeed be held finally to have passed away.

But such words may seem too sentimental and somewhat out of place. Well, then, as a professional man to a professional audience, though not without thought of the non-professional many whose attention this address (just because it is your President's) may be expected to command, let me lay before you my reasons for replying in the negative to the question proposed. I think that it is *not* for the good of the human race, considered as progressive, that women should be freed from the restraints which law and custom have imposed upon them, and should receive an education intended to prepare them for the exercise of brain-power in competition with men. And I think thus, because I am persuaded that neither the preliminary training for such competitive work, nor the subsequent practice of it in the actual strife and struggle for existence, can fail to have upon women the effect of more or less (and rather more than less) indisposing them towards, and incapacitating them for, their own proper function—for performing the part, I mean—which (as the issue of the original differentiation of the sexes) Nature has assigned to them in the maintenance and progressive improvement of the human race. For bettering the breed of men, we need and claim to have the best *mothers of men.* This "higher education" will hinder those who would have been the best mothers from being mothers at all, or, if it does not hinder them, more or less it will spoil them. And no training will enable themselves to do what their sons might have done. Bacon's mother ("choice lady," says the biographer, and "exquisitely skilled," as she was) could not have produced the *Novum Organum*, but she—perhaps she alone—could and did produce Bacon.

Such, stated briefly, is my contention. I proceed to set forth more fully the facts and arguments upon which I found it; but, before doing so, let me, at the threshold of my subject, disclaim all covert intention of proving that women are unfitted for the practice of *medicine;* for, if my question be answered in the affirmative, I see no reason why an exception should be made in favor of our profession. Nor need we. in that case, fear the result. Music, painting, poetry, literature, and cookery, have been as free to women as to men; and yet a Beethoven, a Titian, a Shakspere, a Bacon, or a Soyer has never yet appeared in their midst; and we may rest assured that the day is far distant when a Hippocrates, a Harvey, a Haller, or a Hunter, will adorn the ranks of the lady doctors. Be this as it may, we are citizens first, and medical men after; so that whatever is proved to be for the greatest good of the greatest number, we, as true philanthropists, will cheerfully acquiesce in, even to the sharing of the practice of our profession with our sisters.

What we put before us, then, is the progressive improvement of the human race, the bettering of the breed of man. As Mr. Herbert Spencer (*Education*, page 146) reminds us, "The first requisite to success in life is to be a good animal; and to be a nation of good animals is the first condition to national prosperity." We may add that, to be a race of good animals is the first essential of human well-being. Now, how striking is the contrast when, with the way in which, in the case of the human animal, conjugal and parental unions are left to the haphazard of individual fancies, we compare the persistent painstaking bestowed upon such unions by the breeders of the inferior animals. How suggestive is the very title-page of a book published in 1810 by one T. Hornby Morland, running as follows:

"The genealogy of the English race-horse; with the Natural History of his Progenitors, from the earliest times down to the period when foreign blood was first introduced into this Kingdom; collected from the best authorities; to which is added the general practice of the most judicious breeders, whereby they have improved and perfected our breed of blood horses so as to have acquired a decided pre-eminence and superiority in the essential points of size, strength, beauty, speed, bottom, etc., etc., over those of other countries; with observations upon the present improved method of breeding for the Turf—on the selection of stallions, choice of brood mares, crossing the blood, or mixing races, &c., &c."

Mr. Youatt speaks of this principle of selection as "that which enables the agriculturist not only to modify the character of his flock, but to change it altogether. It is the magician's wand, by means of which he may summon into life whatever form or mould he pleases." In the absence of any still superior animal to the human, which might exercise an analogous exactitude in the systematic improvement of the breed of man, it would be vain to hope (perhaps wrong to wish) for professional or scientific regulation of the conjugal and parental unions of our own race.

But since there can be no interference with individuals, so much the more, surely, should social and political arrangements be free from any tendency to exclude a whole class (and that the fittest class) from its share in those unions and their results—any tendency to shut the fittest mothers out from motherhood. We are still far from being able to assign to father and mother, exactly, their respective influences in determining the original powers and qualities of the organism which is their common offspring; but this, at least, we may say safely, that it *is* their common offspring, that it derives from both of them, and cannot be healthy and well-conditioned as their common product, unless they be healthy and well-conditioned, so as to make healthy and well-conditioned contributions, severally, in producing it. When, therefore, we consider that the mother cannot be thus healthily and well-conditioned if her powers have been persistently strained and overtaxed by competitive efforts and struggles against strength superior to her own, and consider, also, that the strength of man is thus superior, we see already the ruinous unwisdom of encouraging the competition of woman with man, in the severe brain-work of those "higher" studies which make such vast demands upon the vital powers. But how much more does this become apparent when in production and reproduction we include not merely the original powers and qualities of the fertilized germ-mass, as they exist in the new organism's earliest stage at the moment of conception, but take into account, also, all the after-cost to the mother's store of vitality during gestation and after parturition, until the offspring is full-fledged enough to take flight out of the nursery. And, having counted the after-cost, add in next, also, the previous cost of building up and preparing the maternal structure for discharging duly those expensive functions of pregnancy and maternity. When we reflect, moreover, that, compared with the total cost of maternity to woman, the cost of paternity to man is almost inappreciable, does not the conclusion seem to force itself upon us that, if women are to make the outlay of force which severe competition with man, especially in brain-work, will render necessary, their remaining stock of strength will be inadequate to meet the demands of motherhood—of brain-work especially! for we must remember that, of all activities, none seems so antagonistic to reproductiveness as that of cerebration, which, indeed, follows inevitably from the large outlay of vital capital which cerebration involves.

In Mr. Herbert Spencer's words: "If, of the force which the parent obtains from the environment, much is consumed in its own life, little remains to be consumed in producing other lives. * * * Great is the physiological cost of that discipline by which high mental capacity is reached." In short, education is very expensive, physiologically as well as pecuniarily, and growing girls are not physiologically rich enough to bear the expense of being trained for motherhood, and also that of being trained for competition with men in the severer exercises of the intellect. Before citing facts and further authorities in proof and exemplification of this over-expensiveness, it may be worth while (well-worn though the topic be) to dwell a little longer upon the part which the mother has in the making of the man—in determining, that is, the progress of the race :

"Children, like tender osiers, take the bow,
And as they first are fashioned, always grow."

Look at the man newly born—his one experience of the extra-uterine atmosphere that it is cold and sets him shivering. Now, some nine or ten years later, look at him again. What a different being has he become! What a wonderful growth and development has there been of his knowledge and faculties, habits and character ! Never again in any other ten years, or any number of them, even to the three-score and tenth year, will there be anything approaching to an advance and difference equal to that of the first ten. These first ten years have done more to fix the bent of his life and character than all the long years he may live through in days succeeding. In them, as the poet said, has been the main fashioning of him ; and whose has been the chief part in that main fashioning ? Has it not been his mother's? How momentous a matter for him, then, what sort of a one that mother has been—vigorous or feeble, healthful or ailing, hopeful or depressed, cheery or complaining, composed or irritable, systematic or chaotic. How much does it matter what sort of a mother he has had to the individual. How much does it matter what sort of a succession of mothers it has had for its successive generations to the race. Is it surprising that there should be that adage as to remarkable men and remarkable mothers? And human excellence is not exclusively that of those who have been remarkable.

"A man's fate," said an Oxford tutor, looking back upon his college experience, "a man's fate all depends on the nursing—on the mother, not on the father. The father has commonly little to with the boy till the bent is given and the foundation of character laid. All depends on the mother."

Galton, in his "Hereditary Genius," after citing as examples of remarkable women the mothers of Bacon, Buffon, Condorcet, Cuvier, D'Alembert, Gregory, Watts, and others, adds: "It appears, therefore, to be very important to success in science that a man should have an able mother.
* * * Of two men of equal abilities, the one who has a truth-loving mother would be more likely to follow the career of science."

Again, who—in Lewes's "Life of Goethe"—can read the poet's early history, with its absorbingly interesting account of the training he received from his mother, without feeling how much the marvellous material owed to its marvellous manipulation; how what the son grew into was very largely what his mother made him into; or, at lowest, prepared and fitted—in fact, enabled—him to grow into ? What if Goethe's mother had never married? Would she have written "Faust ?"

These questions suggest that, from the training of the man—the manipulation, that is, of the human material—we go back to the material itself ; to the making of that which, after it had been made, the mother's training had to manipulate—from the infant new born to the infant unborn. Here doubtless, we are in a region of far less certainty. Here, we bethink us of the Psalmist's: "We are made secretly." Nevertheless, even here there are such considerable probabilities as, I cannot but think, ought to have great practical weight with us. "Material," why the word itself is but Latin for mothering, a lengthened out form of *mater*. We have no corresponding *paterial*.

A few moments since, we had before us the wonderful contrast of what man was on the day of his birth, and what, in nine or ten years from that birthday, his nursing and training had made or manipulated him into. But, now, let us look at a still more wonderful change and transfiguration, transcending that other one even far more than it transcends all those of later life—change and contrast brought about, too, in a period much shorter, one counting, indeed, by months instead of years.

Instead of nine or ten years forward, from his beginning on the day on which he was born, go nine months backwards to the true beginning and starting point of him, when, by growth and development, he had to be built up and prepared for being born. "What," asks Mr. Herbert Spencer, "can be more widely contrasted than a newly born child and the small semi-transparent gelatinous spherule constituting the human ovum? The infant is so complex in structure that a cyclopædia is needed to describe its constituent parts. The germinal vesicle is so simple that it may be described in a line."

But, that all but structureless and unspecialized cell or cellule is itself a minute bit, more or less detached, of the maternal organism; and (except for other scarcely distinguishable paternal cellule which originally coalesced in it) that whole wonderful antenatal structure, with all its complexities, is merely and exclusively made out of the mother's living substance; it has been subjected to influences and impressions exclusively maternal; it is mother-stuff throughout. And this goes on thus all the time during which it is developing into readiness to become the new-born babe—the man that is to be. Blood and bone, nerve and muscle, are all made out of mother-stuff. Can we exaggerate the importance to the future man of the quality of that mother-stuff?

Here, naturally, there rise in recollection the many stories (more or less well authenticated) of the results on the bodily configuration or mental disposition of the offspring occasioned by accidents occurring to the parent during her pregnancy. How, for instance, King James the First's want of personal courage, and congenital horror of edged weapons, are attributed to the impressions produced upon him, or, rather wrought into him, while still unborn, by what Mary Queen of Scots, his mother, felt and suffered at sight of the naked blades which were slaughtering David Rizzio in her presence. Or, again, how Napoleon's bent of genius towards war and strategy has been regarded as the outcome of his pregnant mother's share in her soldier husband's campaigning, and the consequent occupation of her thoughts and feelings with the movements of war. Such examples make Coleridge's sentence seem less startling, that "the history of a man for the nine months preceding his birth would probably be far more interesting, and contain events of greater moment than all that follows it." Manifestly, it is before his birth, mainly, that the man is made. From and after his birth he has mostly not to be made, but to grow; the making of him has been begun and carried on, and well towards completed in his mother's womb. The food which his developing organism has fed upon, has been in fact, his mother. If it has been good and wholesome food, it has been so because she was in a good and wholesome condition, had a sound mind in a sound body, possessed an unshaken constitution, a well-balanced brain, a healthy digestion—in short, was altogether in such a vital state as to fit and adapt her for discharging duly the arduous functions of maternity.

To return to my facts and authorities in proof that the higher education of women tends to indispose them for matrimony and unfit them for maternity. Mr. Herbert Spencer, in his "Principles of Biology," after noticing that too much bodily labor probably renders women less prolific, proceeds as follows: "That absolute or relative infertility is generally produced in women by mental labor carried to excess, is more clearly shown. Though the regimen of upper class girls is not what it should be, yet considering that their feeding is better than that of girls belonging to the poorer classes, while in most respects their physical treatment is not worse, the deficiency of reproductive power among them may be reasonably attributed to the overtaxing of their brains, an overtaxing which produces a serious reaction on the physique. This diminution of reproductive power is not shown only by the greater frequency of absolute sterility, nor is it shown only in the earlier cessation of child-bearing; but it is also shown in the very frequent inability of such women to suckle their infants. In its full sense the reproductive power means the power to bear a well developed infant, and to supply that infant with the natural food for the natural period. Most of the flat-chested girls who survive their high-pressure education are unable to do this. Were their fertility measured by the number of children they could rear without artificial aid, they would prove relatively very infertile."

In confirmation of the foregoing, I may quote the weighty authority of Dr. Matthew Duncan, who, in replying to the question, Do you find that girls who go in for what is called the higher education have the catamenia lessened, or rendered irregular? writes: "I do. I have this as a distinct opinion," adding, "Amenorrhœa and chlorosis and development of great nervousness are frequent results of overpressure in education at or near the important epoch—fifteen to twenty years of age. To the same cause I have often attributed the destruction of sensuality of a proper and commendable kind, and its consequent personal and social evils."

Writing on the same subject, Sir Benjamin Brodie says: "The mind, in the case of girls of the affluent classes, is educated at the expense of the physical structure, they spending more time in actual study than their brothers." The same eminent practitioner once said to a sister of my own who was consulting him (what perhaps he might have hesitated to put in writing), "When I see a girl under twelve with a book in her hand, I always feel an inclination to throw it at her head."

The late earnest and scholarly Dr. Ed. H. Clarke (U. S. A.) (I am availing myself here of Sir Crichton Browne's very valuable "Education and the Nervous System") collected a large amount of testimony bearing on the effects on health of the higher education of women in America, where it is pushed with remorseless eagerness as yet but little known in this country; and all the testimony collected by Dr. Clarke is in favor of one conclusion—that severe brain-work for girls, kept up continuously, is most injurious to health. In his "Sex in Education" (Boston, 1882), Dr. Clarke writes: "It is not asserted that all the female graduates of our schools and colleges are pathological specimens, but it is asserted that the number of those graduates who have been disabled in a greater or less degree by these causes is so great as to excite the greatest alarm, and to demand the serious attention of the community. If these causes should continue for the next half-century and increase in the same ratio as they have for the last fifty years, it requires no prophet to foretell that the women who are to be mothers in our Republic must be drawn from transatlantic homes."

There is hardly an American physician who has specially treated the diseases of women who does not corroborate these words. For instance, Dr. Emmet: "I hold that it is not practicable to educate a girl by the methods found best for a boy, without entailing serious consequences. The ovaries will always be arrested in their growth if the brain is forced. . . . I not only endorse Dr. Clarke's views so far as he has gone, but my own experience leads me to believe that the evil is even more serious than he has represented." And Dr. Goodall: "From the age of eight to that of sixteen, our daughters spend most of the time in the unwholesome air of the recitation room, or in poring over their books when they should be at play. . . As the result the chief skill of our milliners seems to be directed towards concealing the lack of organs needful alike to beauty and maternity, and the girl of to-day becomes the barren wife or invalid mother of to-morrow. Surely a civilization which stunts, deforms, and enfeebles, must be unsound."

So, too, Professor Loomis, of Yale College, looking at the increasing deterioration of American girls, remarks: "The cry in our colleges and time-honored universities is, 'Open your gates that the fairer part of creation may enter, and join in the mental toil and tournament.' God save our American people from such a misfortune." And our own lamented Dr. Thorburn, of Owens College, to whose article on Female Education I am indebted for my last quotations, having said that "The struggle for existence on the part of single women, and the capacity of a few of their number to ignore, with safety, the physiological difficulties of the majority, are demanding opportunities for education, and its honorable as well as valuable distinctions, which cannot and ought not to be refused them," is constrained to add: "Unfortunately, however, up to this time, no means have been found which will reconcile this with the physiological necessity for intermittent work by the one sex. It becomes, therefore, the duty of every honest physician to make no secret of the mischief which must inevitably accrue, not only to many of our young women, but to our whole population, if the distinction of sex be disregarded."

In like strain, Mr. Lawson Tait, in his "Diseases of the Ovaries," after declaring himself an advocate of women's rights, says: "At the same time, I cannot help seeing the mischief women will do to themselves, and to the race generally, if they avail themselves too fully of their rights when conceded. * * * To have only the inferior women to perpetuate the species will do more to deteriorate the human race than all the victories of Girton will do to benefit it. This overtraining of young women is wholly unnecessary in the interests of human progress, and it is most mischievous alike to themselves and to humanity. * * * Exceptional culture will infallibly have the tendency to remove the fittest individuals, those most likely to add to the production of children of high-class brain power, from out of the ranks of motherhood."

Much of what has been adduced has reference chiefly to Mr. Herbert Spencer's "Upper-class Girls," and Sir B. Brodie's "Girls of the Affluent Classes." How much more may over-education be expected to work its ruinous results upon those growing girls who, with antecedents far less favorable as to food and rearing, are stimulated to excessive mental efforts in the preparation for, or practice of, competition in brain-work with men. That such competition has in it the terrible strain of contest of the weaker with the stronger, might have seemed a truth too nearly a truism to bear much insisting on. So, indeed, might that other truth which, granted unreservedly, would free me from all necessity for further argument—the truth that women are meant to be not men but the mothers of men. It used to be said that Parliament could do anything but turn a man into a woman. But, in these days, there seems to be danger, both in and out of Parliament, that the attempt may be made to turn women into men.

Let us recall to recollection, therefore, some of the natural difficulties in the way of that transformation. The power of the human brain varies with its weight and size. But the brain of woman is ten per cent. lighter than that of man, so Tiedemann says; and Dr. Thurnam's carefully collected observations indicate a greater and more significant disproportion. Giving ten per cent. as the excess of weight in the male cerebellum, in the two hemispheres, he tells us man has the advantage by twelve per cent. Nor is this difference accounted for by difference of stature, which, between the two sexes, is, on the average, not more than eight per cent.

And, as Gratiolet remarks, this internal smallness of brain has its natural accompaniment in the external frontal development, so that, while "Man's fair large front and eyes sublime," as Milton tells us, "Declare absolute rule;" in woman, on the contrary, a large forehead is felt to derogate from beauty. Not that woman is without her proper compensation, as in the line that tells of "man's imperial front and woman's roseate bloom." So Professor Laycock: "Experience shows that woman has less capacity than man for dealing with the abstract in philosophy, science, and art; and this fact is in accordance with the less development of the frontal convolutions."

To proceed with our evidence as to results: Dr. Hertel, speaking of overpressure in the high schools of Denmark, writes that, "of the boys, 29 per cent., and of the girls 41 per cent., were found to be in a sickly state of health. The diseases most prevalent were anæmia, scrofula, and headache."

In confirmation of Dr. Hertel, I may cite the evidence of Professor N. J. Bystroff (I quote from our own able Journal), "who has examined 7,478 boys and girls in the St. Petersburg schools during the last five years, and found headache in 868; that is, 11.6 per cent. He states that the percentage of headache increases in a direct progression with the age of the children, as well as with the number of hours occupied by them for mental labor; thus, while headache occurred in only 5 per cent. of the children aged 8, it attacked from 28 to 40 per cent. of the pupils aged from 14 to 18. The author argues that an essential cause of obstinate headache in school children is the excessive mental strain enforced by the present educational programme, which leaves out of consideration the peculiarities of the child's nature, and the elementary principles of scientific hygiene." Even as regards the immediate object—mental progress—it has been well remarked in the *Lancet*, that "a system which leads to such disastrous results as regards bodily health is no less pernicious in checking mental advance and improvement; for at no epoch of life is the necessity for maintaining the balance between construction and destruction of nervous energy greater than in the period immediately preceding adolescence; and it is just at this time that keen competition is most severely felt in the subjecting, as Dr. Ross remarks, the latest evolved portions of the nervous system to a strain so great that only those possessing the best balanced and strongest systems can escape unscathed."

Dr. Tuckmann (Cleveland, U. S.) relates that in 1881, "of 800 pupils in a particular high school, nearly 25 per cent. of the girls, and 18 per cent. of the boys, from one cause or another had withdrawn; and that it was found, on investigation, that of the girls so withdrawn 75 per cent. had left wholly or in part on account of ill-health—were in poor health while at school. Here it appeared that, whether from necessity or from choice, the girls studied more hours out of school than the boys did."

Quite in accordance are the results arrived at by the extensive investigations of our able co-associate, Sir Crichton Browne, before referred to. But, indeed, there are facts daily emerging in this direction of such painful significance that I might almost say a cry of remonstrance has arisen from one end of England to the other. All great dangers are apt to be greatly exaggerated. This one of overtraining may, perhaps, not have been an exception to the rule; but the danger does exist, and is a great one; and the sequence of punishment after transgression is sureand certain. Degeneration and impaired nutrition come in place of development ; evolution passes into dissolution. And, with mental training, the danger is far greater than with bodily training. The rules of health,sedulously attended to during the latter, are often disregarded in the former ; and thus the nervous system is developed at the expense of the nutritive. In the case of young children, the consequences of overtraining are things of frequent observation. The wonderful Westminster Boy, " the learned pig," was an imbecile before manhood.

In our contemporary school reports, how many do we find resembling that of Mr. Tyson's (Penrith School Board), respecting the deaths of two children, "the immediate cause, in both cases, being brain fever, undoubtedly resulting from overpressure at school."

Again, to come back to the special subject of this address : "There can be no doubt," writes Mr. Alderson, one of Her Majesty's Inspectors of Schools, "that the work required by the code presses more heavily upon girls than boys. They work more willingly, and they feel the strain more. They require to be protected from their own willingness to study."

But time admonishes me to make an end. My argument may be summed up very simply. Excessive work, especially in youth, is ruinous to health both of mind and body, excessive brain-work more surely so than any other. From the eagerness of woman's nature, competitive brain-work among gifted girls can hardly but be excessive, especially if the competition be against the superior brain-weight and brain-strength of man. The resulting ruin can be averted—if it be averted at all—only by drawing so largely upon the woman's whole capital stock of vital force and energy as to leave a remainder quite inadequate for maternity. The Laureate's "sweet girl-graduate in her golden hair" will not have in her the fulfilment of his later aspiration, his

> " May we see, as ages run,
> The mother featured in the son."

In the prophet's words, " She will not have strength to bring forth ;" her reproductive system will more or less have been atrophied ; she will have lost her womanhood's proper power. With the power, she will have largely lost also the inclination ; of " Love's sweet want," as Shelly calls it, she will know little, for, in Dr. Duncan's more matter-of-fact language, she will have lost " sensuality of a proper commendable kind." Unsexed it might be wrong to call her, but she will be more or less sexless. And the human race will have lost those who should have been her sons. Bacon, for want of a mother, will not be born. She who should have been his mother will perhaps be a very distinguished collegian. That one truism says it all—women are made, and meant to be, not men, but mothers of men.

A noble mother, a noble wife—are not these the designations in which we find the highest ideal of noble womanhood? Woman was formed to be man's helpmeet, not his rival ; heart, not head ; sustainer, not leader. Many times, indeed, woman's fate has set her in the foremost place ; in some of those times, no doubt, such place has been well and grandly filled by her. Yet, even then, our admiration is not untinged with compassion. Even in this year of approaching or commencing jubilee, is it not so with us when we think of that Crown, royal and imperial, which, splendid as it is, has so long been left "a lonely splendor"? "Victoria Regina et Imperatrix"—bravely, proudly, gloriously is the burden borne; but would she, who knows its weight, wish a like weight to be laid upon any daughter?

Let this address come back to the humbler life which more belongs to it. "I am king of the household, and thou art its queen," says the happy husband in Longfellow. Permit me to conclude to-day with King Solomon's eulogy for the happy home-queen, the happy wife:—"Who can find a virtuous woman?—for her price is far above rubies. The heart of her husband doth safely trust in her; she will do him good and not evil all the days of her life. She rises while it is yet night, and giveth meat to her household, and a portion to her maidens. She girdeth her loins with strength, and strengtheneth her arms. She perceiveth that her merchandise is good, her candle goeth not out by night. She layeth her hands to the spindle, and her hands hold the distaff. She stretcheth forth her hands to the poor, yea, she reacheth forth her hands to the needy. Her husband is known in the gates, when he sitteth among the elders of the land. Strength and honor are her clothing, and she shall rejoice in time to come. She openeth her mouth with wisdom; and in her tongue is the law of kindness. She looketh well to the ways of her household, and eateth not the bread of idleness. Her children arise up and call her blessed; her husband also, and he praiseth her. Favor is deceitful, and beauty is vain; but a woman that feareth the Lord, she shall be praised."

Dr. N. S. Davies moved: "That the best thanks of the Association be given to the President, Dr. Withers Moore, for his able and interesting address." He could not refrain from expressing his most cordial sympathy in the sentiments that had been expressed in the main body of the address. There was no more important theme that could occupy the attention of medical men as conservators of public health, no higher duty that they could discharge, than that of bringing their influence to bear in endeavoring to stay the tendency that had sprung up in many countries, and in none more than his own, to push the female sex forward to qualify in the higher brain-work necessary for all the higher avocations usually occupied by men. He had been so situated in connection with some of the American schools as to have had personal opportunities for observations in regard to the results of such action, and he thought there was already abundant practical demonstration, in the few years that had elapsed since those trials had been made, to show that every evil which had been alluded to in the President's address had clearly followed. Instead of raising the question whether women could be trained to an equality of man, he would claim that women had all the capacities of intellect and brain, and every qualification designed to fit her for her high station in the world, which the God of nature had designed her to fulfil; and while she could not be qualified safely, properly, and beneficially to fill the station and discharge the duties designed to be done by man, neither could man be qualified to perform the duties of the female sex. Both were supreme in their proper spheres; but when they defied the laws of nature, and undertook to transform and intermingle them, they were striking a fatal blow at the welfare of the race.

Dr. Quain, in seconding the motion, congratulated the President on the position which he had attained. As to his address, he had never heard the subject more eloquently and forcibly discussed, and he had no doubt that its effect would be very striking and beneficial. It had been said that, if the American ladies pressed onward as they were doing, they would have to import English ladies from this side of the ocean, and when that result followed he believed it would produce a very great effect indeed.

The motion was unanimously adopted; and the President briefly acknowledged the compliment.

ADDRESS DELIVERED AT THE OPENING OF THE SECTION OF MEDICINE

By W. H. Broadbent, M. D., F. R. C. P.

REMOTE EFFECTS OF REMEDIES.

That present relief is often obtained at the expense of future suffering and injury, is a trite remark. I might take up my parable and speak of alcohol, the remote effects of which are so terribly frequent; but this is not a lesson which I need enforce, and I allude to it only for use as an illustration. If we were not so familiar with the exhilarating effects of wine, we should find it hard to believe that anything could so entirely lift a man above his surroundings, banishing sorrow and care and enhancing enjoyment, sharpening the wits and raising the spirits, conferring a feeling of self-satisfaction, and throwing a cheerful glow on the most unfavorable circumstances. Supposing all this could be attained without speedy reaction and ultimate ruin to body and mind, is there any consideration which would prevent men from unlimited indulgence?

There will occur to all, again, the pain and depression, the bodily derangement and the mental wreck, by which the opium-eater, or the devotee to hypodermic morphia, ultimately pays for his delicious dreams or her factitious happiness; the miserable irresolution and wretchedness which, after a time, overtake the man who habitually resorts to chloral for the sleep which he ought to court by fresh air and exercise, and by the removal of the influences which give rise to sleeplessness. Even the bromides—the least injurious, perhaps, because least powerful of the remedies employed to procure sleep—besides producing the well-known acne, may bring a man into a state of childish dementia, which, fortunately, does not last. We have not yet begun to see the evil effects of the newer hypnotics, such as paraldehyde, urethan, etc., but coca or cocaine is already beginning to claim its victims, who gradually develop an excitement which becomes maniacal, or an exaltation like that of general paralysis.

These glaring examples of injurious remote effects of measures which are immediately beneficial, are only adduced in order to show the direction of my thoughts.

It may be said that the injury is the result of unauthorized abuse of remedies by patients, and of weak, vicious self-indulgence; but so also will many of the injurious effects I propose to consider be seen to result from patients taking the treatment of their ailments, real or supposed, into their own hands. The point is that very frequently the treatment has been initiated, or at least sanctioned, by the medical man, just as he has prescribed or administered the first hypodermic dose of morphia.

Let me begin with the familiar subject of gout, and of some of the remedies which are employed in its treatment. It is well known that we can relieve the pain and cut short the paroxysm of an acute attack by the free use of colchicum, veratria, and other drugs having a similar action. It is equally well known that their injudicious use may produce great immediate prostration, and that the remote effects of their habitual employment are often most disastrous. We may, however, administer colchicum; we are, indeed, compelled by the frightful suffering to give it freely in some cases; but we are justified in resorting to it only on condition that we do for the patient by after-treatment—aperients, alkalies, iodides, etc., with careful regulation of the diet—what the attack would have done; that is, clear the system of gout-poison, and bring the secretory and excretory organs into a state of functional efficiency; or the end may be attained by a visit to one of the many baths and waters known to be efficacious in gout. These precautions, and the self-denial required for continued immunity, are frequently unacceptable to the gouty convalescent, and are disregarded; and, when gouty pains return, they are kept down by the remedies which have been found to give relief during the attack, or by some so-called specific. This may be done with success for a very long time. Meanwhile, however, the remote effects are in preparation. These are mainly due to imperfect elimination. It is not implied that colchicum and its allies directly arrest the elimination of uric acid existing in the blood; it is rather antecedent metabolism which is checked, and nitrogenized waste other than urea and uric acid accumulates in the blood and tissues. Such impurities provoke resistance in the arterio-capillary circulation, and we enter upon the condition of high arterial tension, with all its varied damage and danger. It can scarcely be too often repeated that all the effects upon the arteries on the one hand, and the heart on the other, associated with contracted granular kidney, namely, arterial degeneration, cerebral hemorrhage, aneurism, and dilatation of the left ventricle, valvular disease, are just as commonly produced, independently of kidney-disease, by high pressure in the arterial system due to other causes; and such pressure in an extreme degree may be induced prematurely by the means taken to keep down gout. Even convulsions not distinguishable from those occurring in uræmia may be induced. A case which occurred in my experience within the last twelve months may illustrate effects of this kind.

A man, aged 37, living a sedentary life, of strictly temperate, and, indeed, abstemious habits, so far as could be ascertained, consulted me in October, 1885, on account of continuous headache, with weekly exacerbations of frightful severity, at times attended with vomiting. I was at once struck by the high tension in the arteries; the temporals were prominent and tortuous, the radial was large, full between the beats, and compressed with difficulty, and the pulse was long. The urine, an examination of which was at once suggested by this state of the circulation, was found to have a good color and normal specific gravity, and did not at this time contain albumen, although traces were found subsequently. I looked upon the paroxysmal headaches as of migraine character, and did not attach sufficient importance to, or adequately deal with, the high arterial tension, especially as the arteries are tightened up in migraine; and I gave only a mild blue and colocynth pill twice a week, while arsenic was prescribed, with carbonate of potash, for the migraine. Three weeks later, the paroxysmal headache was better, but the continuous headache remained; no important change was made in the treatment. Nothing more was seen of the patient until I was called to meet in consultation Dr. Wilbe, who had only been summoned to him on the supervention of urgent symptoms. These were, pain in the head of overwhelming severity, incoherence, stupor, intolerance of light and sound, and violent muscular jerkings. He lay on his back or side, the chin down on the breast, his arms bent, the knees drawn up, and all the muscles of the chest and abdomen in a state of powerful tonic contraction, while every three or four seconds there was a violent momentary spasm of the abdominal and thoracic muscles, attended with synchronous flexion on the body of the arms and legs. The heart was beating violently, and the tension in the arteries was extremely high, the radial feeling like a solid incompressible cord. (I may say, in parenthesis, that I have never found the pulse so strong and incompressible in uræmic convulsions as in this patient, the heart usually appearing to have failed in vigor when they supervene.) It seemed as if the vessels must burst under the strain, and the symptoms were obviously in relation with the high arterial tension; venesection was therefore practiced, and sixteen ounces of blood were withdrawn; this was followed by a calomel purge. Great, but not complete, relief was at once experienced, and the patient slowly recovered. A larger bleeding would have been more effectual.

The extraordinary tension present in the arteries throughout this case was incomprehensible until, one day, the patient's sister produced a number of empty bottles, which had contained Laville's specific for gout. He had, in fact, had pain which he attributed to gout, and, finding that he was relieved by the specific, he had taken it largely.

Some of the most striking illustrations of injurious remote effects of gout-specifics are furnished by London painters and plumbers. Lead in the system, we know, is a common cause of gout, apparently through its interference with oxidation and metabolism; and plumbers and painters are, in consequence of absorption of lead, extremely subject to this disease. There are, however, well known gout-pills which are very effectual in relieving the pain, and they are taken, as a matter of course, whenever gouty symptoms set in. The attacks being prevented or suppressed, imperfectly oxidized matter, which might have been burnt off, accumulates in the system; and it is among workers in lead who have resorted to this practice that we see enormous deposits of urate of soda in the hands and feet, and find the arteries ruined by degenerative changes, the result of protracted high pressure, or the heart dilated by the resistance in the peripheral circulation, contracted granular disease of the kidney, itself a product either of the state of the blood or of the vascular tension to which this gives rise, often aggravating the effects of the original blood condition. I need not enumerate the disasters which attend the structural changes mentioned—cerebral hemorrhage on the one hand, dropsy on the other, acute pulmonary and other attacks, uræmic convulsions. Let me add, however, that it is not only in these direct and conspicuous consequences that injury is manifested; diseases, which would otherwise be attended with no danger, prove fatal when the heart is worn out by the constant struggle with the resistance in the arterioles and capillaries, and convalescence is slow, difficult, and imperfect, when the vessels are deteriorated. In my experience, too, I may mention that gangrene of the lungs has been disproportionately frequent among workers in lead who have suppressed gouty tendencies by the means named, and it is easy to understand a liability to this complication. Pneumonia is one of the local inflammations to which the constitutional condition may give rise; the circulation has not the normal freedom and rapidity, and there is, moreover, a tendency to coagulation in the blood of gouty subjects, as is manifested by the familiar thrombosis of veins. Such coagulation in the vessels of a pneumonic patch will be the determining cause of gangrene of the lung.

There are other ways in which abnormally and injuriously high arterial tension may be encouraged. One of these is the "Banting" treatment of obesity, as understood and practiced by the public. This consists essentially of a highly nitrogenized diet, and, indeed, in the exclusion of the non-nitrogenized sugars and starches, together with a limitation of the amount of fluid taken as drink. We have, therefore, at the same time, a disproportionate amount of nitrogenized matters introduced into the system, which have to be broken up, oxidized, and excreted, and a diminished supply of water, which is essential to active metabolism and elimination. An important part of the method, when properly carried out, is exercise, which, in fresh air, may work off the impurities; but this element of the treatment is usually neglected. The amount of fat is undoubtedly often reduced, but the imperfectly oxidized, nitrogenized waste, present in the blood, provokes resistance in the capillaries and generates tension in the arteries.

Cases have repeatedly come under my notice in which the injurious effects, mostly cardiac, of this condition have been manifest; and, in one instance, the first symptoms of dilatation of the left ventricle, which ultimately proved fatal, were so distinctly traceable to the period at which the Banting diet was adopted, that no doubt was left in my mind that it had a preponderating share in producing this change in the heart.

The examples cited, it may be said, simply illustrate the folly of violent interference with natural processes by people who are ignorant of the consequences; but sometimes the colchicum treatment of gout, or the Banting process, is initiated more or less under the advice of medical men; and, in my opinion, a similar error, for which medical teaching is directly responsible, is committed when strict dietetic treatment is insisted upon in the glycosuria of stout elderly gouty subjects. I will not stop to discuss the question whether this is to be called diabetes or not; but, to be quite clear, I may state that the cases I have in mind are not those in which there is merely, from time to time, a small amount of sugar in the urine, but such as have copious urine with high specific gravity, and the constant presence of much sugar, often with thirst. Now, in some of these patients, the establishment of habitual and free elimination of sugar is coincident with the disappearance of many distressing symptoms, especially digestive troubles, loss of appetite, irritability of temper, disturbed sleep, and morning depression. The altered chemistry of the liver is, in some way, a relief; perhaps it is by the increased elimination of the urea which accompanies the sugar, the two coming from the splitting up of nitrogenized matters. I do not wish to argue from this that we must let the glycosuria alone, but only that we must bear it in mind in our treatment. Now, in my experience, this form of glycosuria is almost always associated with high tension in the pulse, which is not constantly the case in the diabetes of early life, the pressure in the arteries here being often extremely low; as everyone knows, also, it is common in gouty persons, and it may or may not appear to relieve the gout; very often it does nothing of the kind. It appears to me that, with all these evidences of the presence of nitrogenized waste in the blood, it can scarcely be right to insist on a diet from which non-nitrogenized matters are strictly excluded. It may be added that, as a matter of practical observation, such a diet is rarely, if ever, adhered to; patients belonging to this class are not usually such as have been accustomed to self-restraint, or such as can resist the solicitations of a newly reviving appetite; and when it is attempted do we not find the mouth to become foul and dry, the appetite fail, the bowels deranged, till we are compelled to relax the restrictions?

But this is not all; here, again, I have met with instances in which the heart has suffered, the long full pulse of sustained tension being replaced by the sudden and short wave in a large full artery, indicative of dilatation, corresponding signs being found on examination of the heart.

These are the cases in which cures are effected at Carlsbad, Marienbad, Vichy, and elsewhere, by the eliminating action of large quantities of water, aided, more or less, by the saline matters contained in it. We have thus therapeutic evidence that what is needed is elimination.

Now, our object is not the removal of the last trace of sugar from the urine, but the comfort, happiness, and long life of the patient. With regard to the prolongation of life, it is impossible to speak definitely; but I can say without hesitation that the patients feel better and happier under eliminant treatment, with a modified mixed diet, than under a rigorous exclusion of starchy foods. They seem, moreover, to go on living indefinitely.

The treatment I have in my mind is the administration of a blue and colocynth pill, once or twice a week, followed up by salicylates and alkalies. It may be added that, although this is not the effect chiefly aimed at, very commonly sugar is completely banished from the urine for months, and sometimes for years.

Another example of injury, gradually wrought by a remedy which affords alleviation of symptoms, is furnished by asthma. There are certain powders, of which "Himrod" seems to be the most popular, the fumes of which, when burnt, sometimes give speedy relief to the asthmatic paroxysm. We cannot wonder that sufferers should resort to this or to any other expedient which promises to cut short the frightful suffocation of the attack; and, in some cases of the purely neurotic asthma, no great harm is done. The bronchial spasm, or hyperæmia, is a trick of an excitable nervous system, and may be met by a remedy which satisfies the demand for a local stimulant or sedative; but the solanaceous drugs, of which the powders are largely composed, contain powerful alkaloids, which obtain direct access to the blood through the pulmonary capillaries, and produce their effects on the nervous and vascular systems; and, when we see the stupefied mental condition and the congested face and eyes, and note the large, weak, sluggish pulse, showing paralysis of the arterial walls, it is clear that such effects cannot be indefinitely repeated with impunity. It is where there has been a catarrhal element in the asthma that the results have seemed to me most disastrous. The right ventricle loses its tone, like the muscular coats of the arteries, and, instead of becoming hypertrophied, yields to the resistance in the pulmonary circulation, and is dilated, finally giving rise to systemic venous stasis and dropsy. In one such case, in a young and otherwise strong man, seen with Dr. Andrews, of Hampstead, I had the opportunity of verifying this dilatation of the right ventricle *post mortem*, there being no other discoverable cause of death. The asthma began in catarrh; the "Himrod," giving relief at first, was employed immoderately, the whole house reeking with it; acute dilatation of the right ventricle took place, and ultimately proved fatal.

Another affection which I have sometimes seen treated without regard to the remote effects of the treatment is sick-headache, so called. This is essentially a nervous paroxysm—a nerve-storm some are pleased to call it—the liability to which is usually inherited, the attacks having a tendency to recur at more or less definite intervals, and usually becoming more frequent and severe when the general tone is low, but also being provoked by emotion, fatigue, certain winds or states of atmosphere, the catamenial period, derangements of the stomach or liver, etc. We cannot, so far as I know, abolish this liability. We can at the most reduce the frequency and severity of the attacks by keeping the general health at its best, and by maintaining a high tone of the nervous system, when exciting causes of an ordinary or average kind are successfully resisted. It is a significant fact, however, that with advancing years, and in women after the cessation of the catamenia, the sick-headaches frequently disappear; and I have observed, too, that, with exceptional intellectual vigor in old age, the liability to paroxysmal headaches has been retained. There is scarcely a week in which we are not called upon to treat these sick-headaches, and we can do much to relieve the exacerbations which have become intolerable, and have driven the patient to seek our aid; but we must acknowledge to ourselves, and I think it is only prudent to acknowledge also to our patients, the limitations of our power. We may not, perhaps, so far reconcile the sufferer to his ailment that he will be rather proud of his migraine than otherwise, as is not unfrequently the case in France, where "ma migraine" is spoken of almost in a tone of affection, or is looked upon as a sort of distinction; but he will listen to common sense, and not be too ready to anticipate the senile immunity which we may promise him. But the radical treatment of sick-headache is sometimes seriously undertaken, occasionally from the point of view of cerebral congestion, more frequently when considered as a symptom of gastro-hepatic derangement. Not very long since, a lady came to my consulting-room for advice with regard to congestion of the brain, of which she said she had had several severe attacks. She had been confined to bed in a darkened room, and had had leeches and blisters applied, and, after recovery from the acute phase, had been placed on a most rigorous diet, from which she had never ventured to deviate. She was wretchedly thin and weak, and quite unequal to the care of her house, any emotion bringing on headache, which was looked upon as a threatening of renewed cerebral congestion. Inquiry satisfied me that the first attack of congestion of the brain was simply an exaggerated sick-headache, and subsequent attacks were more severe in consequence of the treatment. I prescribed careful feeding up and arsenic, which was carried out by my friend, Mr. Roche Lynch; and nothing more has been heard of congestion of the brain, while the patient has been restored to health and strength.

Without discussing the relation between migraine and the liver, or the feasibility of curing sick-headache by removing hepatic derangement, let me relate a case in which this was attempted with apparent success, but with remote effects which more than counterbalanced the result. A hard-working professional man, between 50 and 60, who had suffered from sick-headache all his life, and from constipation, was told that the one depended on the other, and that a morning dose of Friedrichshall water and a daily enema would relieve him of both. In the course of months this came to pass, but he became subject to tinnitus aurium, and to attacks of giddiness, in which he sometimes fell down, while he was no longer equal to his duties. The vertigo was attributed to overfeeding and stomach-derangement, and he was strictly dieted, but without good effect; while an ulcer of the cornea developed itself, which may or may not have been the result of innutrition. I first saw him some time after the establishment of the corneal ulcer and heard only of the giddiness—nothing of the migraine and its treatment. The giddiness was indeed trying enough to monopolize both his attention and mine; he walked unsteadily, staggered on the slightest occasion, and had been known to fall down with momentary loss of consciousness; he was anæmic but not thin, and I found very high tension in the pulse, with a weak left ventricle. Looking upon the vertigo as the result of imperfect supply of blood to the brain, and due to the inability of the heart to cope with the resistance in the arterio-capillary network, I endeavored to meet these indications by the eliminant action of a mild blue pill with colocynth, which I relied upon to diminish the peripheral resistance, while I gave arsenic, with nux vomica and quinine, to improve the condition of the blood and the tone of the cardiac muscle. The immediate effects were most satisfactory. The feelings of insecurity and habitual giddiness were lost, and, although not free from all his symptoms, the patient felt equal to work. This, however, did not last long, for, about six weeks later, after worry and strain, he again fell down unconscious. It was only after another severe attack of this kind that I discovered that, determined to retain the benefit he supposed himself to have derived from the Friedrichshall water and low diet—the loss of his headaches—he had persisted in these measures, defeating in this way the endeavor to improve his nutrition and increase his strength. From this time, under better food, there was no recurrence of the attacks, and a winter at Cannes completed the restoration to health and strength. I should, however, have more confidence in the permanence of the recovery, as I told the patient, if he had a return of original headache.

This case leads up to the last illustration I shall bring before you of present relief purchased at the expense of subsequent injury to health. This is the treatment by too careful and restricted a diet of certain forms of so-called indigestion. There are numbers of people, both men and women, but chiefly women, who begin by having pain in the epigastric region, at a variable interval after eating, pain, associated or not with flatulence. This is attributed to some particular article of diet, which is dropped with perhaps temporary suspension of the discomfort. The pain, however, soon returns, and after a number of experiments medical advice is sought. It is not uncommon for the medical man to take the same view of the case as the patient, and a scale of diet is laid down with great minuteness, adopting perhaps all the sufferer's restrictions, and adding more, which is observed with all the greater scrupulousness the more stringent its injunctions, and obeyed all the more readily because the appetite is wanting. I have known this to be done even when neuralgia was crying aloud for more and better blood to be sent to the nerve centres. There are still discomfort and a sense of repletion after food; and the patient, considering himself to be in possession of the secret of his cure, improves upon the instructions given him, and the list of permissible foods is still further cut down, till starvation point is almost reached, or acute illness puts an end to the dieting. I have seen such documents with the pen run through one article after another of those permitted by the medical man; and a case came before me in the spring, in which the only food taken was soaked biscuit, and this, not by a hysterical girl, but by a mother who was devoting all her energies to the care of her family. The aggravation of the pain, which had from innutrition become severe gastro-enteralgia, was attributed to the obstinacy of the indigestion, and I was expected to suggest something still more simple in the way of food. It was with difficulty that the patient was convinced of the connection between her increasing suffering and her diminishing nourishment; but, this done, and the requisite measures adopted, she gradually recovered. I cannot say that fatal results of such treatment have come under my notice, but I have met with many instances in which it has led to great weakness and suffering in the individual, and serious interference with the comfort and welfare of families. The energetic wife and mother has become a fretful invalid, migraine has been aggravated, other neuroses developed, in one case the most severe anginoid paroxysms, and all capability of useful work has been lost. Sometimes an acute attack of illness supervenes, during which liberal nourishment is insisted upon, and the patient gets up comparatively well. The illness in such cases gets the credit of improvement in the general health, which is really due to the food given during its continuance and during convalescence.

A variety of this dyspepsia, of which I am speaking, is the winter-indigestion of women and weakly men. As cold and damp weather sets in, there are many persons who begin to suffer from pain after eating, and flatulence; or these symptoms may not set in till later in the winter, when the cold and short days have reduced the vital powers. Very frequently the connection between the indigestion and the season of the year is not recognized, and the subjects of it simply look upon themselves as liable to dyspepsia, which they associate with certain articles of diet, instead of with the winter, or attribute to want of exercise and fresh air. As is well known, however, cold, and especially cold with damp, will inhibit digestion, sometimes so completely that a hearty meal, eaten with avidity after a cold drive, will be vomited almost unchanged hours afterward; but this takes place more frequently in a minor degree, sufficiently to give rise to discomfort and a sense of distension, or the cold will inhibit the hepatic functions and cause constipation.

Now, in all such cases, it is not the food which disagrees with the stomach, but the stomach which disagrees with the food; and the appropriate treatment is not leveling down the nourishment to the digestive capacity of the stomach, but the bringing up of the functional energy of the stomach to the requirements of digestion, by extra food of a stimulating character, such as beef-tea, or an egg-flip between meals, by stimulants at meals, and by tonics. So with regard to winter indigestion; winter is not the time for cutting off food, when it is required in larger amount to neutralize the influence of external cold. What is wanted is protection from the depressing influence of cold, or the means of neutralizing it.

It is quite true that most people eat far too much, and, again, that with regard to the stomach, as well as to all other organs and parts of the body, the principle of functional rest is of primary importance in dealing with disease; and restriction of food, and even temporary starvation, is often necessary; but we must distinguish, and not starve those who are suffering from inadequate nourishment, or employ treatment for catarrh, or ulcer, or organic disease, when nothing of the kind is present.

I had on my list a reference to the injudicious use of purgatives, and to the employment of aperients, without reference to the special cause of constipation, and without discriminating between the differing modes of action of the drug selected. I might also have extended the catalogue of injurious remote effects of remedies, but it is time to make way for the more important papers which await your attention.

[In a communication to the *British Medical Journal* in regard to the above address, Dr. J. Milner Fothergill says: No one can peruse the able address delivered by Dr. Broadbent before the Section of Medicine at Brighton, without being powerfully impressed by it. The remote effects of what purchases "present ease" is a matter far too little regarded in medicine. What the patient wants is to get relief from pain, or some other immediate trouble. The future lies beyond the sphere of his vision, and, when pointed out, is not always particularly acceptable to him. A marked instance came before me recently, in the person of a gouty man. On my pointing out to him the evils which lay before him, he listened patiently and politely, and then remarked: "It is very good of you, doctor, to be so thoughtful about my future; but I am thinking more of my present." And, no doubt, he was spokesman for a large class of my patients. They do not care to look beyond the immediate present, or to subordinate it to the future; nor do they give their medical men any encouragement to look to the remoter consequences of the remedial agents employed, provided they act immediately.

Dr. Broadbent has handled the subject with consummate ability; but one matter there is to which he has not alluded—doubtless on the score of time—which is so important, and of such everyday occurrence, that it seems to me well to allude to it now, when Dr. Broadbent has drawn attention to the above topic. It is the use of opiates to relieve cough. When the poor, worn, emaciated consumptive is racked with cough which almost shakes the frame to pieces, it would be cruelty to withhold the welcome soothing cough linctus. But it is a very different matter to give opium or morphine to allay a cough which is little more than troublesome. To sip a cough linctus at frequent intervals, or to take a cough lozenge from time to time during the day, is often a most pernicious practice. The sedative carries with it its all-round action, and the liver and digestive organs feel its paralyzing influence.

So much harm have I seen done by the poisonous cough linctus, that it is banned in my wards at Victoria Park Hospital, with only one exception, namely, when the case is hopeless. But so long as there is a prospect of life, I never throw the chance away, nor blot it out by handicapping the assimilative organs by the crippling effect of continuous sedatives. My rule may be too hard and fast in the opinions of some others who act differently, but it gives good results. When the cough prevents sleep, a narcotic at bedtime may be indicated; but this is far less objectionable, possibly as the digestive organs are resting at that time; and it is possible, too, to counteract any evil effect by adding an agent like aloes, which is an hepatic stimulant, as well as acting on the bowels. But opiates during the day are a slow poison in cases where the great aim is to improve the nutrition.]

REVIEWS.

THE FIELD AND LIMITATION OF THE OPERATIVE SURGERY OF THE HUMAN BRAIN. By John B. Roberts, A.M., M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Surgeon to St. Mary's Hospital. Philadelphia: P. Blakiston, Son & Co.

This is the essay which Dr. Roberts wrote under his appointment to prepare a paper on "Cerebral Surgery" for the meeting of the American Surgical Association last year, and it is well worthy of the permanent form in which it is now presented to the profession; though it is perhaps to be regretted that the full and learned discussion which it elicited at the time it was read, and which has been published in the Transactions of the Association, was not incorporated with it. The thesis which he very ably defends in it is comprised in the following propositions, which constitute what he terms his "creed."

1. The complexus of symptoms called "compression of the brain" is due, not so much to displacing pressure exerted on the brain substance, as it is to some form or degree of intracranial inflammation.

2. The conversion of a closed (simple) fracture of the cranium into an open (compound) fracture by incision of the scalp is, with the improved methods of treating wounds, attended with very little increased risk to life.

3. The removal of portions of the cranium by the trephine or other cutting instruments is, if properly done, attended with but little more risk to life than amputation of a finger through the metacarpal bone.

4. In the majority of cranial fractures the inner table is more extensively shattered and splintered than the outer table.

5. Perforation of the cranium is to be adopted as an exploratory measure almost as often as it is demanded for therapeutic reasons.

6. Drainage is more essential in wounds of the brain than in wounds of other structures.

7. Many regions of the cerebral hemispheres of man may be incised and excised with comparative impunity.

8. Accidental or operative injuries to the cerebral membranes, meningeal arteries, or venous sinuses should be treated as are similar lesions of similar structures in other localities.

9. The results of cerebral localization are more necessary to the conscientious surgeon than to the neurologist.

There can be little question that, until very recently, the views of the profession upon the subject of cerebral surgery have been entirely too conservative, and this book is admirably qualified to serve as a valuable practical aid in deciding the question of operative interference in a class of cases which have hitherto been generally considered beyond the pale of surgery.

The first chapter of the work being devoted to the principles of cerebral surgery, the second contains a careful study of the subject of cerebral localization, including tables giving the indications and contra-indications in traumatic cases, the points for opening the cranium when operation is indicated, and the more uncertain localizations; while the third chapter treats of the operative treatment of cerebral lesions.

The book is beautifully printed, and contains a number of illustrations.

A TEXT-BOOK OF NURSING. For the Use of Training Schools, Families, and Private Students. Compiled by Clara S. Weeks, Graduate of the New York Hospital Training School; Superintendent of Training School for Nurses, Paterson, New Jersey. New York: D. Appleton & Company. Pp. 396.

The writer of this work is especially qualified by her studies and extended experience in the field of nursing for the preparation of such a manual. With the exception of a few practical points, the result of personal observation, it makes no claim to be regarded as anything more than a compilation; but it contains a very large amount of useful matter in regard to the subject in question, which is arranged in so compact and generally satisfactory a manner as to make it apparently admirably adapted for the purpose designed.

The introductory chapter is devoted to the subject of nursing in general, and the qualifications and duties of a nurse; while among the subjects treated of in the succeeding chapters are, the sick-room, the hospital ward, beds and bed-making, bed-sores, circulation, pulse, temperature, respiration, ventilation, the observance of symptoms, medicines and their administration, enemata, suppositories, douches, counter-irritants, cups, leeches, poultices, fomentations and other applications, baths, massage, urine, contagion and disinfection, surgical nursing, operations, fractures, dislocations, bandaging and strapping, hemorrhages, emergencies, surgical and medical, obstetrics, sick children, special medical cases, and the terminations of disease. As the author states, the book is by no means intended to serve as a medical compendium; but it will undoubtedly serve, as she hopes, to save others the necessity, which she says has been frequent in her own experience, of going through a mass of extraneous and over-technical matter in search of the little things which a nurse needs to know.

It is illustrated with several anatomical plates, and at the end are appended a complete series of questions for review and examination, a vocabulary of technical terms, and an index. Altogether, it is a work which might be studied with advantage in every household in the land.

BOOKS AND PAMPHLETS RECEIVED.

"The Modern Treatment of Ear Diseases, as Illustrated by Over Two Thousand Consecutive Cases at the New York Eye and Ear Infirmary." By Samuel Sexton, M.D., Aural Surgeon. Physicians' Leisure Library. Detroit: George S. Davis. 1886.

"A Manual on Inhalers, Inhalations, and Inhalants, and Their Use in the Treatment of Catarrhal Diseases of the Respiratory Tract." Profusely Illustrated. By Beverley Robinson, M.D., Clinical Professor of Medicine at Bellevue Hospital Medical College. Physicians' Leisure Library. Detroit: George S. Davis. 1886.

"The Pathology and Treatment of Dropsy." By James Barr, M.D., L.R.C.S., Edin., Physician to the Stanley Hospital, Liverpool, etc. Reprinted from the Liverpool *Medico Chirurgical Journal*, July, 1886.

"Electrolysis in Gynæcology, with a Report of Three Cases of Fibroid Tumor Successfully Treated by the Method." By Franklin H. Martin, M.D., Chicago. Reprinted from the *Journal of the American Medical Association*, July 11 and 24, 1886.

"Some of Our Forgotten Worthies." The Oration before the Louisiana State Medical Society, at its Eighth Annual Meeting, April 14, 1886. By Henry Dickson Bruns, M.D., New Orleans. Reprinted from the Transactions of the Society and the *N. O. Medical and Surgical Journal.*

"The Non-Identity of Croupen's Tonsillitis with Diphtheria." By L. Emmet Holt, M.D. Reprinted from the *New York Medical Journal.*

"The Health Record." A Quarterly Journal Devoted to Popular Enlightenment upon Medical Subjects, and to the Exposition of Charlatanism. Mark S. Purdy, M.D., Editor. Vol. I., No. 1, August, 1886. Corning, New York.

"The Immediate Restoration of Parts to the Normal Position after Tenotomy." By Reginald H. Sayre, M.D., New York. Reprinted from the *Alabama Medical and Surgical Journal.*

"Notes of a Case of I., Raynaud's Disease, and of II., Gangrene Complicating Diabetes Mellitus." By J. H. Musser, M.D. Reprinted from the Transactions of the College of Physicians of Philadelphia, March 3, 1886.

"The Function of The Recurrent Laryngeal Nerve." From Experimental Studies in the Biological Laboratory of the Johns Hopkins University. By

Frank Donaldson, Jr., B.A., M.D. Reprinted from the *American Journal of the Medical Sciences*, July, 1886.

"Preliminary Account of the Experiments in Regard to the Circulatory and Respiratory Changes Observed in Animals Placed in the Pneumatic Cabinet." By H. N. Martin, F.R.S., and Frank Donaldson, Jr., M.D. Reprinted from the *New York Medical Journal*, May 15, 1886.

"Erysipelas and Other Septic and Infectious Diseases Incidental to Injuries and Surgical Operations Prevented by a Method of Atmospheric Purification." (Second presentation.) By David Prince, M.D., Jacksonville, Ill. Reprinted from the *Amercian Practitioner and News*, April 3 and 17, 1886. Second Edition.

"The Relation of the State and the Medical Profession." An Address Delivered June 30, 1886, before the Alumni Association of the Department of Medicine and Surgery of the University of Michigan. By Charles J. Lundy, A.M., M.D. Ann Arbor, 1886.

"Intubation of the Larynx for Diphtheritic Croup." By E. Fletcher Ingals, A.M., M.D., Chicago. Reprinted from the *Journal* of the American Medical Association, July 10, 1886.

"The Treatment of White Swelling of the Knee." By A. B. Judson, M.D., New York. Reprinted from the *New York Medical Journal*, June 5, 1886.

"Surgical Lesions of the Brain and its Envelopes." By Nicholas Senn, M.D., Milwaukee. Reprinted from the *Medical News*, August 28, 1886.

Catalogues and Announcement of the following Medical Schools:

Bellevue Hospital Medical College.

Medical Department, University of the City of New York.

New York Polyclinic.

New York Post-Graduate Medical School and Hospital.

College of Physicians and Surgeons, Medical Department Columbia College, New York.

Long Island College Hospital, Brooklyn, N. Y.

Detroit College of Medicine.

College of Physicians and Surgeons of Chicago.

St. Louis Medical College.

Central College of Physicians and Surgeons, Indianapolis, Ind.

St. Joseph Medical College, St. Joseph, Mo.

Trinity Medical School, Toronto, Canada.

MISCELLANEOUS.

THE MEETING AT BRIGHTON.—The fifty-fourth annual meeting of the Association at Brighton was throughout successful, and ended as it began, with general congratulations and a universal feeling of satisfaction. The number of members in attendance was over 1,200; and this is the more noticeable, seeing that the southeastern counties are mainly agricultural, not vastly populated, and do not supply, therefore, that great local medical population which ensures a numerously attended meeting when the Association holds its congresses in great cities or crowded centres of population. There were many agreeable incidents which marked the course of the meeting, both general and sectional, and all of the proceedings were well attended. The presence of the American delegates in considerable number lent special interest to the meeting, and their reception will have indicated to our brethren across the Atlantic how warm are the feelings of respect and affection with which they are regarded in the mother country. Happily, also, the Dominion of Canada was well represented by some of its most distinguished medical men.

The Association marked its desire to do honor to the American visitors and to our Canadian colleagues and fellow-subjects by opening, on this occasion, the rigidly guarded list of its honorary members. No association, perhaps, of anything like the same importance guards its honorary list of members with more jealous care, and the rule is one equally remarkable for its distinction as for its brevity. On this occasion, however, and to do especial honor to our American and Canadian guests, two eminent men, Dr. Nathan S. Davis, the President-elect of the International Medical Congress, and one of the principal founders of the American Medical Association, and Dr. Billings, of Washington, the reader of the address on medicine, were elected honorary members as representatives of the profession in the United States; and Dr. Grant, of Ottawa, who has filled the highest offices in Canada in the Colleges of Surgeons and Physicians, and in State Medical bodies, and has been Physician in Charge of successive Governors-General in Canada; and Mr. Hingston, of Montreal, a surgeon of high repute in this country, as in the Dominion of Canada, and who is also President for the year of the College of Surgeons and Physicians of Lower Canada, were elected honorary members as representatives of the Dominion.

The announcement to the members that premises had been secured of suitable size, and of a character adequate to carry on with dignity the general business of the Association at its head-quarters in London, was received with general satisfaction. The building which has been obtained as the new home of the Association is one of considerable prominence, and some architectural pretensions, in a leading thoroughfare, and is to provide a much-needed accommodation for the Council and its various divisional Committees; and it was intimated that it will probably be possible, also, to provide a reading-room for the use of members, that will make a sort of head-quarters to which they can resort on their visits to London. * * *

On many previous occasions there has been a most cordial desire on the part both of the medical practitioners of the towns in which the annual meetings have been held, and the leading inhabitants, to give a warm and hospitable reception to the Association; but never has this feeling found a more practical expression than at Brighton. The town possesses, in its splendid Pavilion and Dome, and its ample means of accommodating visitors, special facilities for the holding of large meetings. The liberality of the Mayor and Corporation placed the Pavilion Dome and Corn Exchange at the disposal of the Association during the week; and it would be difficult—if not, indeed, impossible—to find more convenient premises for the meetings of the Association and its various Sections. But the good will of the municipal authorities was not limited to a gracious permission to use the public buildings. They gave their visitors not a mere civil reception, but a cordial welcome. Even before the formal commencement of the proceedings, the Mayor of Brighton, Mr. Alderman Reeves, indicated the kindly feeling of himself and colleagues by entertaining at luncheon, along with many of his fellow-townsmen, a large number of members of the Council of the Association, and other visitors, and by expressing his good wishes for the prosperity of the Association and the success of the meeting. The splendid reception given on the last evening of the meeting by the Mayor and the Mayoress was another gratifying instance of the kindly feeling of the people of Brighton towards the Association. His Worship the Mayor may be assured that the vote of thanks given to him at the close of the meeting is no mere form of words, but is a sincere expression of the gratitude of the Association to him for the active and generous interest which he manifested in its welfare and in the success of the meeting. * * *

Besides the Mayor and Corporation, and the officials connected with the meeting, others of the inhabitants and neighbors contributed their share towards increasing the pleasure of the visit. Sir Julian Goldsmid gave a garden party at St. Ann's Well, which was very largely attended. Mr. E. T. Booth invited members to visit his splendid museum of birds; and Mr. Halliwell Phillips showed to a party of members the interesting collection of Shakesperian relics which he possesses. Arrangements were also made for visits to the Brighton Water Works and Sewage Works, and to the medical institutions of the town, of which many members availed themselves. The New Club, and the Brighton Sailing Club, the Aquarium, and the two Piers, were, by the kindness of the committees and directors, thrown open to the members during the meeting. Excursions were made on Saturday to Arundel and Chichester; Eastbourne, Pevensey, and Beachey Head, the Isle of Wight, Tunbridge Wells and neighborhood, and Hastings, St. Leonard's, Normanhurst and Battle Abbey, and were numerously attended. At Arundel, the guests were invited by the Duke of Norfolk to visit the castle and partake of luncheon; and, in the unavoidable absence of his grace, they received a most hospitable welcome from his steward, Captain Mostyn. Sir Thomas and Lady Brassey also invited those who took part in the Hastings excursion to visit their home at Normanhurst. And in all the places which the excursionists visited, they were most cordially received, both by their medical brethren and the inhabitants, and had afforded to them every facility for visiting and inspecting numerous places of historical, antiquarian, and sanitary interest. * * *

In all respects the meeting of the Association at Brighton has been most successful. Those who undertook the arrangements of the meeting no doubt found their work facilitated by the existing conditions of the place, and by the generous liberality with which their efforts were seconded by the public; yet the undertaking must have often severely taxed their time and energy. Now, however, that the meeting is ended, they have the satisfaction of knowing that they have done their work well, and that the verdict of the numerous visitors to Brighton during last week is one of universal satisfaction.—*British Medical Journal*, August 21.

THE INTERNATIONAL MEDICAL CONGRESS AT BRIGHTON—The proceedings were greatly heightened in interest by the attendance of a delegation from the International Medical Congress, to be held in America, at Washington, in September, 1887, to present an invitation to attend the Congress to the members of the British Medical Association. There have been some considerable internal dissensions among the organizers of this Congress, but it was very generally felt that this ought not to and could not prevent the invitation from America receiving a cordial acceptance. This invitation, which was made at once in the name of the International Medical Congress by its President-elect, and of the American Medical Association by some of its principal officers, was received with that sincere and affectionate cordiality which both the purport of the message and the sources from which it came already assured for it in advance. It lost nothing of dignity or of interest in the weighty and grave words of Dr. N. S. Davis, one of the oldest and most respected members of the profession in America, and one who holds very much the same relation to the American profession as Sir Charles Hastings long held to the profession in Great Britain. Dr. Davis was practically the founder of the American Medical Association, and its most respected spokesman. The English profession may be sure that they will receive in America a welcome of unlimited hospitality and of boundless kindness and brotherly affection. They will see there a great country and a great profession, which has sprung up and developed with a rapidity and to an extent which the world has never seen during the life-time of many who were present to hear the invitation. In our own country, Paget, Lister, MacCormac; in France, Charcot, Trélat; and in all the countries of Europe, leading representatives of science have accepted invitations to be enrolled on the list of Vice-Presidents. In America, the President of the United States and the great officers of State have signified their acceptance of the office of Patrons of the meeting; and official recognition of the highest kind, such as is naturally due to a great gathering of medical men from all parts of the world, will be accorded to those who accept the invitation to attend the first great International Medical Congress which has ever been held in the United States.—*British Medical Journal.*

DR. NATHAN S. DAVIS —The leading position assigned to Dr. N. S. Davis, of Chicago, by his countrymen as President-elect of the approaching International Medical Congress at Washington, and the prominent position of honor assigned to him at the annual meeting of the British Medical Association at Brighton, will make many of our readers desire to know more of the professional life-history of this venerable and respected physician. Dr. Davis received the degree of Doctor of Medicine from the Regents of the University of New York in 1837, and has been engaged in the practical duties of the profession from that time until the present. In 1844, while a member of the New York State Medical Society, he originated the movement that resulted in the permanent organization of the American Medical Association in 1847. At the annual meeting of that Association in 1851, he read a valuable paper, giving the results of original investigation in regard to the effects of. different kinds of food, and of alcoholic liquors, on the temperature of the human body, etc. His contributions to medical literature since have been valuable and numerous. In 1850, he was elected Professor of Principles and Practice of Medicine in the Medical College in Chicago, and Professor of Clinical Medicine in the Mercy Hospital, which positions he continues to hold at the present time. He was President of the American Medical Association during the years 1864 and

1865. In 1879 he received the honorary degree of LL.D. from the Illinois Wesleyan University. He is an honorary member of the New York Academy of Medicine, of the College of Physicians of Philadelphia, and of many other scientific and medical societies in his own country. In 1883, the American Medical Association having decided to publish its transactions in the form of a weekly medical journal, Dr. Davis was chosen its chief editor. In 1886 he was appointed Secretary-General, and, after the death of the late Professor Austin Flint, he was unanimously elected President of the Preliminary Organization of the International Medical Congress to be held in Washington in September, 1887. The above is a brief description of Professor Davis's career. It remains only to state how highly he is esteemed by his compeers in the United States. He stands now as the recognized head of the profession in his country, the successor of the lamented Flint and the other great men who preceded him. Probably no physician in the United States has done more to keep up the tone of the profession, and to make the profession one solid, earnest body, desirous of advancing science, benefiting humanity, and adding to the glory of the country.—*British Medical Journal.*

THE TWINS OF LOCANA.—John and Jacob Tocci, the twins of Locana, who have been shown in almost every city of Europe as the successors of the famous Siamese Twins, are dying in the Prater. Their mother is a strong, healthy countrywoman. The boys resemble each other exactly, have pretty, delicate features, and are now in their tenth year. John and Jacob are separate as far as the sixth rib, and have one abdomen and one pair of legs between them. Jacob moves the right leg, John the left. The twins cannot walk, and keep their balance by lacing their arms around each other's neck. Jacob eats often and heartily, and is the healthier of the two, and to all appearances it is he who keeps his brother alive. Two days ago the twins quarrelled over a toy, and John grew so excited that his heart blood suddenly ceased to flow, and he changed to a condition of complete lethargy, from which he had not awoke on the following morning. The boy suffered from the same complaint a year ago in Berlin, and Prof. Virchow then declared that a recurrence of the lethargy would certainly put an end to the twin's life. A number of Vienna physicians are observing the malady, but they entertain little hopes for John's life, and if John dies Jacob must follow him to the grave. The twins as they lie in their bed offer a strange contrast. Jacob with feverish eyes and a red face seems to harbor all the blood that has retreated from John's lifeless body. The conscious boy cries incessantly, because he has often heard Prof. Virchow's remark repeated, and knows that his brother's death is but the harbinger of his own. The poor creatures are meeting with the same fate that some time ago put an end to the life of the Siamese twins, the second of whom died of poisoned blood-vessels, after having spent six terrible hours with the corpse of his brother. The advisability of an operation separating the living from the dead brother was discussed at the time, but before a resolution could be taken death had done its work. The twins of Locana, who for the last eight years have traveled to all the world's shows, were to have left to-morrow for New York, where Barnum is said to have engaged them for a year at a salary of 30,000f. In the event of their death the parents have sold their body to a London anatomical museum for the price of £8,000.—*Vienna Letter to the London Daily News.*

DISEASES OF THE UTERINE APPENDAGES.—The *Lancet* recently devoted a leading article to the paper by Dr. H. C. Coe, of this city, entitled, "Is Disease of the Uterine Appendages as Frequent as It Has Been Represented?" an abstract of which was given in the JOURNAL last spring. The editorial concludes as follows: We are heartily glad to see such good pathological work from an American gynæcologist. The mass of American gynæcological work—and it is very large—degenerates into treatment, and treatment of an operative kind, based upon nothing better than ignorance and fancy. The consequence is that operations and instruments are invented, which bear the name of the inventor, are practised or used by the unwary for a brief time, and are then cast away into forgetfulness. This, unfortunately, is the history of a very great part of American and English gynæcological work. The cart has been put before the horse, and both have come to grief. The paper of Dr. Coe is, and will always remain, a valuable contribution to an obscure and much-abused subject; and cannot fail to be in America the beginning of a healthy scientific scepticism with regard to diseases of the uterine appendages and to spaying, which must lead to a more rational and less indiscriminate and fatal operative interference with women who suffer from but trivial diseases.

A GRATEFUL PATIENT WITH A LONG MEMORY.—A Scotch newspaper publishes the following unusual item: "The treasurer of the Dundee Royal Infirmary has received a donation of £100 from William Sweeney, Hedge Row, Dundee, in return for treatment received by him while an inmate of the Old Infirmary in 1843."

SÄNGER'S CÆSAREAN OPERATION.—At a recent meeting of the Philadelphia Obstetrical Society, Dr. Robert P. Harris made the following remarks: I desire, through this Society, to give publicity to the following statement, received a few days ago in a letter from Dr. Sänger, of Leipzig, by which it will be seen that his method now stands unrivalled in the world in its ability to save human life. Locally considered, the Porro operation, as performed in the Santo Caterina Hospital of Milan, Italy, has until recently far exceeded in its proportionate success all other Cæsarean methods in any hospital or country but this; the best of all Porro successes has now to be rated second, as compared with its younger German rival. Laparo-elytrotomy, a year ago, stood upon the same level with the Sänger operation in its rate of success; but now the latter far outstrips it in the number of times it has been performed and in its proportion of cures. According to Dr. Sänger's letter, his operation, with its modifications and simplifications, has been employed twenty-five times, saving eighteen women, or seventy-two per cent., and resulting in twenty-two children being delivered alive, or eighty-eight per cent. In these are included three fatal American cases, which, if not in an absolutely hopeless state before the operation, gave a very minimum hope of success. The European twenty-two operations saved eighteen women, or 81 9-11 per cent. In the Maternity Hospital of Leipzig Dr. Sänger has operated four times, Dr. Obermann once, and Dr. Donal once, saving all of the women and children; in but one woman was there any special trouble after the operation. Dr. Leopold, of the Dresden Maternity Hospital, has operated nine times, and Dr. Korn once; the former lost one woman; all of the children were saved. Thus we have fifteen women and sixteen children saved under sixteen operations, a mortality for the former of only 6 1-4 per cent. Of the four deaths in Europe, two resulted from septic poisoning which existed at the time of the operation, and in the other two subjects it followed it.

Dr. Sänger has such confidence in his method from the success that has attended it in Germany that he believes the time has come when it should be preferred to craniotomy, because of its moderate fatality and its saving the child. We should be glad if all of the Cæsarean operations of the United States should be performed after Sänger's method as simplified by Garrigues and Leopold; but we must not expect very happy results here until our accoucheurs become alive to the fact that delay in operating will make any method fatal in a large proportion of cases. In no country are the capabilities of the old Cæsarean operation greater than in the United States, and in few has this form of delivery been of late more uniformly fatal. To find eighteen recoveries under it we must search backward to January, 1863, and through a record of time covering more than twenty-three years, in which period seventy-three operations have been performed, proving fatal in about seventy-five per cent. This occurred notwithstanding an established fact that a set of early operations will save seventy-five per cent. of the women, and still higher of the children, of the United States.

MEDICAL HEROISM.—There are two armies. The one in splendid trappings, with gorgeous banners flaunting in the van, with gold-decked officers who cheer or threaten, with men whose faces gleam with the fierce delight of victory, or darken with defeat, sweeps over the earth with horrid noise of shouting men, and rattling musketry, and thunder-rolling guns. The air is darkened by its dust, and the earth shakes beneath its rushing squadrons. It passes, and the peaceful fields are blackened in its track; the clear streams are stained with long, dark streaks of blood, and all of nature's thousand happy voices are drowned in awful groans, wrung from the parched lips of mangled things that once were men.

The other host comes with so still a tread you hardly note the steadiness of its advance. Its men are sober suited, and the faces of them grave and set. Here and there upon some brow the deeper lines, the whiter hair, in some calm countenance the sadder eyes, mark alone the presence of a leader, whose daily foe for many years, perhaps in many lands, is death. For, though no mortal ear may catch the sound of conflict, each man of this devoted band is target for a myriad poisoned darts that fall more gently than the silent snow; and many, ah! how many, as the great host keeps its unfaltering way, drop stricken from its ranks and yield the ghost, not leaving even one dark stain on God's green grass to mark the spot they fell. But they fall not in vain. Ever before them flee the fell sisters, pain and death. Ever behind them rise the deep sigh of relief, the murmured prayer of gratitude, the glad cry of Rachel, weeping no longer, but comforted, for her children are restored unto her.

The one is the army of death, the militant hosts of the world. Nations are proud to honor its heroes, and their monuments of brass or marble are lifted to every sky. The other is the army of life, the host Æsculapian, and with the exception of a few, a very few, we may look, and we shall look in vain, for their memorials.

The roll of this honorable company is forever lengthening. The journals tell us of the death of Lawson of scarlet fever, "contracted from a patient"; of McCaughin of typhus, taken while attending the prisoners in the jail at Albany; of Mott, my own college-mate, of the same disease, caught in the hospital on Blackwell's Island.

The army of life-savers, too, has accompanied that other one of destruction upon every field, and the members of the one have shared with the soldiers of the other every danger, every hardship, to which they were exposed. During our late war, on the Federal side there were killed in battle thirty-two surgeons; nine were killed by accidents; eighty-three were wounded on the field; four died in prison, and two hundred and eighty-one of diseases incident to the service. I have not been able to obtain the figures of the losses on our side, but doubtless they were as great.

Nor is the record of those of our fraternity who go down to the sea in ships a whit less glorious. In times of disaster it is the surgeon who, having brought up all his sick or wounded and put them into the boats, is the last save the captain to go over the vessel's side. I have lately read an account of the great naval duel between the *Kearsarge* and the *Alabama*. After the latter had been reported sinking, the officer who went below to examine her condition saw "Assistant Surgeon Llewellyn at his post, but the table and the patient upon it were swept away from him by an eleven-inch shell." One of the *Alabama's* men reports having seen him returning below for some of the wounded when the ship was actually going down, and then he was never again seen alive by mortal eyes. His dead body was found floating upon the surface of the sea.

In the ranks of republican France was a young soldier of family and fortune. Brave beyond compare, foremost in every danger, he scorned all proffers of promotion, and was never known by any title other than that acclaimed by an admiring host, "The First Grenadier of France." Finally, in some fierce charge he fell. His comrades buried him on the field, and placed him dead as he had even been living, with his face to the foe. And ever after, on parade muster, the first name called from the roll of his regiment was that of La Tour d'Auvergne; and the sergeant, stepping from his place, came to salute and made answer, "*Mort sur le champ de bataille!*" And so, sir, when in calling our roll there comes no answer to our dead heroes' names, should not our hearts leap up, and making the salute of honor, call out that phrase more glorious than any monument builded by human hands: *Mort sur le champ de bataille!* Dead on the field of battle!—*From the Oration on "Some of Our Forgotten Worthies," before the Louisiana State Medical Society, at Its Eighth Annual Meeting, by Henry D. Bruns, M.D.*

THE VALUE OF PASTEUR'S PROCESS.—Dr. C. R. Drysdale writes to the *London Times*:—M. Grancher, who has made a careful analysis of the cases treated up to June 16 at the Rue Vauquelin, informed me that of ninety-six patients bitten by dogs (the disease of which was certified either by the inoculation of other animals after their death with the brain or spinal cord proving fatal, or by the fact that some animal bitten by the dog had succumbed to hydrophobia), of these ninety-six cases only one died subsequently to the curative inoculations. This gives a death-rate of only 1.04 per cent. Again, 644 patients had been bitten by dogs the madness of which was certified to by the veterinary practitioner of the commune, and out of these there were three deaths, which gives a death-rate of only 0.46 per cent. Taking these two categories together, the death-rate was only .075 per cent., whereas from a very accurate series of statistics collected by M. Leblanc, veterinary practitioner of the city of Paris, it results that, as a rule, sixteen per cent. of such cases may be expected to succumb to hydrophobia. The value, then, as M. Grancher says, of the curative process of M. Pasteur may be represented as twenty-three times as great as that of all other treatments.

A GOOD KIND OF CHILD TO BE SICK.—A lady writes to the *Boston Journal:* "Our little two-year-old boy is very fond of medicine. No matter what the kind, he takes it with evident relish, and teases for it on all occasions. The other day he came running in and said he was sick and tired, and his leg ached and he must have some. To pacify him his mother gave him a teaspoonful of cough syrup. After lapping out the spoon, he looked roguishly up to her, and said in an appealing tone: 'Got two legs, mamma; mus' have anozer spoonful for ze ozer leg.'"

TRUTH STRANGER THAN FICTION.—Last week the French public was agitated by the discovery of the body of a genteel girl who was found dead in a sequestered street in the suburbs of Paris. There were no marks of violence, but no doubt was entertained, either by the police or the public, that the death was due to crime. For some days the journals were full of wild theories as to the motives which might have prompted the murder of the interesting victim. The real circumstances of the case, as now ascertained, are a trifle less romantic, but are sufficiently curious, from several points of view, to merit a passing remark.

At the post-mortem examination, which was made in the usual course of events at the Morgue, it was discovered that death was due to suffocation caused by impaction of the larynx by a collection of those restless enterprising worms, the *Ascaris lumbricoides*, which the child had presumably vomited but not ejected. Not the least remarkable feature in the case is the explanation offered by the parents of their conduct in the matter. Terrified by the sudden death of the child, which nothing had foretold or could explain, they had preferred depositing the body in a quiet, unfrequented spot to risking the malicious remarks and inuendoes of the neighbors and that dread official, the *concierge*. Rather than face this, and a possible trial for manslaughter, they, in a fit of desperation, resorted to the reprehensible plan which excited so lively an interest in French society. The cause of death is one which deserves to be recorded in the annals of legal medicine.—*British Medical Journal.*

A RARE CASE.—A rare departure from the normal uterine development was observed recently, by Dr. J. McF. Gaston, in the person of a colored woman about thirty-five years of age, residing in this city. Within the vulva there was a *cul-de-sac*, which might have received an ordinary hen's egg, without any opening above, and having a density and elasticity corresponding to the vaginal wall. Upon a bimanual examination, neither womb nor ovaries was found by either himself or two colleagues, who examined the case with care. The small intestines seemed to rest upon the superior wall, and the descent into the vaginal outlet caused the woman to seek advice and led to this discovery. She supposed that menstruation had been prevented by bathing in cold water when it should have appeared, but there was no subsequent discharge, or indication of a tendency to it at any period since. The mammary development and the external genital organs are normal, and the act of copulation has been attended with the usual orgasm, according to her statement.—*Atlanta Med. and Surg. Journal.*

A PEN AND INK SKETCH OF PASTEUR.—But I am letting my pen run away from my description of Pasteur as seen through the window. The first thing one notices is that he has the bronzed complexion of a military veteran, and a good deal in the general expression of the face of a grave old soldier. The former must have been inherited, as his life has been sedentary, and the latter may possibly be the result in infancy and boyhood of conscious and unconscious imitation of his father—*un brave de la grande armée* until 1816 or thereabouts, when he set up a little tan-yard near Dole, in La Franche-Comté. It is well for those who want to scan the savant reading the blue despatches that he sometimes takes off mechanically his black velvet smoking-cap, which he ever wears at home and in his laboratory. The "dome of thought, the palace of the soul," shown by its removal, is solidly constructed, spacious, and high, without being high arched. A man with such a head could not help making his mark in life. The mind is at ease in a dwelling so spacious. All the lineaments bespeak self-will and the habit of hard, patient, and persevering work. A nose that would be lumpy if shorter is wrinkled in all directions at the bridge. It is the sort of low nose, with a thick, advancing, downward end, semi-*retroussé* and semi-dipping, which one sees in the effigies of antique French warriors, and which Mercié has given to his equestrian statue in the Salon of the Constable de Montmorency. A short, scant beard does not hide the massive, fleshy, and yet not heavy outline of the under part of the face. An air of thoughtful gravity pervades the countenance. But there is something of the African feline in the topaz-yellow eyes, which, when the smoking-cap is taken off and the head thrown back, stare right before them at vacancy, as if to rest the optic nerves. I have never seen a human being with eyes like Pasteur's; they are sometimes lighted up by flashes of scientific inspiration. But one does not see this at the window. There is observable there something which the constant use of the microscope has induced in displacing focuses, and enabling the visual organs to pass in review the infinitesimal and, to the naked eye, invisible scavengers whose mission it is to clear away detritus in and around us. But the topaz color is more peculiar than the expression. Heavy lids of a dark bistrous tint half hide the yellow iris. One of them droops a little. There is a network of wrinkles at the temples, and lines and interlines about the brow and side of the nose. One sees that the right hand drags as the telegrams are opened, filed, or thrust away. The neck is short and bull-like, the shoulders broad, and when the savant stands up his figure strikes one as squat, though not to an excessive degree. At home he dresses carelessly in an old pea-jacket, on the breast of which there is the red rosette of an officer of the Legion of Honor. When he goes out his loose-fitting clothes are as neat as a soldier's on parade, and his boots are of as high a polish as the much-vaunted Messrs. Day & Martin's paste blacking can produce. In taking constitutional walks in the Luxembourg Gardens he is seldom without a young disciple, on whose arm he leans. Pasteur is threatened with total paralysis, and has had an eighteen years' struggle against hemiplegia. * *

In sketching Pasteur I should not overlook an under-stratum of that Franche-Comptois shrewdness which has enabled M. Grevy to climb to the highest position without exciting hot rivalry. Pasteur is attached to his native province, and often goes there to renovate himself in the place in which his boyhood was spent. His wife, daughter, son-in-law, and even a youthful grandchild, can be his intellectual companions. Madame Pasteur comes from a pedagogic family. She and her daughter studied science so as to be able to aid the savant in his researches into silkworm diseases when he was laid up with paralysis. Her name was Laurent, a French rendering of Lazarus. The granddaughter is the companion of Pasteur's walks and hours of idleness. She is four or five years old, thoughtful, earnest, and concentrated beyond her years. Her strange, dark eyes have also topaz gleams, which show that the bulging forehead above them is pushed out by brains and not by hydrocephalus. Pasteur's family affections are strong. There never was a kinder or more dutiful son. His vocation was to be painter, but to please his father, who was ambitious that he should be a schoolmaster, and his mother, who had an almost lower-order Irish passion for "book-learning," he took to science as it was taught in his boyhood—out of books. A professor under whom he was then turned his attention to chemistry. At this juncture a schoolfellow was given a microscope for a birthday present, which he allowed Pasteur to take with him on holiday outings. The instrument opened to him a universe, and eventually put it into his head to take up the investigations of Swannerdam and Robert Boyle, in which Swift found the subject of "Gulliver's Voyage to Lilliput." * * *

I have seen many frivolous cases at the Rue d'Ulm. Pasteur was right to treat them seriously, since rabies on the brain may and often does cause death. The whole family of an eminent London surgeon went through a course of inoculations because they had been licked on the hands and face by a dog of which ugly suspicions were entertained. They comprised a grown-up young lady, two young men and their wives, and a couple of misses in their early teens. I could not help hoping, when I saw them, that the starchy-looking stuff which Dr. Grancher injected into their flesh was of the bread-pill nature. A poor woman, the wife of a steward near Nancy, had at the same time to undergo inoculations so as to shelter her employer, whose dog had bitten her for perhaps the twentieth time in three or four years, from a civil action for damages if she died in her then expected confinement. She did not want to go to M. Pasteur, because she said the dog was killed by order of a Republican mayor, and on the report of a radical veterinary, for the simple reason that its owner was a Royalist, and that the rural letter-carrier was afraid of a brute of pure mastiff breed and surly temper. The mayor at the execution told the steward in the Royalist squire's presence that if his wife died he should sue for damages. She was therefore packed off under the charge of the domestic chaplain to the Rue d'Ulm, from Loraine, and gave birth at the Hotél de Brésil before her treatment was over to a child which just lived long enough to be christened. I heard her story from herself.—*G. M. Crawford in the Fortnightly Review.*

THE DIGESTIBILITY OF VARIOUS KINDS OF FOOD ACCORDING TO VANDERBECK.—*Meats.*—Easy to digest: Mutton, venison, hare, sweetbread, chicken, turkey, partridge, pheasant, grouse, beef. Hard to digest: Pork, veal, goose, liver, heart, brain, lamb, duck, salt meat, sausage. *Fish.*—Easy: Turbot, haddock, flounder, sole, oysters, trout, pike. Hard: Mackerel, eels, salmon, herring, salt fish, lobster, crabs, mussels, cod. *Vegetables.*—Easy: Asparagus, French beans, cauliflower, beets, potatoes, lettuce. Hard: Artichoke, celery, spinach, boiled cabbage. *Fruits, etc.*—Easy: Baked apples, oranges, grapes, strawberries, peaches, cocoa, coffee, black tea, claret. Hard: Apples, currants, raspberries, apricots, pears, plums, cherries, pineapples, chocolate, pickles, beer.—*Journal of Reconstructives.*

A DEFINITION OF GOUT.—Dr. Milner Fothergill gives the following succinct account of the pathology of gout (*Medical Record*): "When kidneys first appear in the animal kingdom, the form of urinary secretion is uric acid.

Uric acid belongs to animals with a three-chambered heart and a solid urine (reptiles and birds). The mammalia possess a four-chambered heart and fluid urine, the form of urinary secretion being the soluble urea. When the human liver becomes depraved or degraded, it has a tendency to form primitive urinary products. To the question, 'What is gout?' the answer is: 'Gout is hepatic reversion, when primitive urine is formed by a mammalian liver.'"

AGE OF GERMAN UNIVERSITIES.—A comparison of the ages of the several German-speaking universities is of interest just now in connection with the recent Heidelberg commemoration. The oldest is Prague, founded in 1348; next comes Vienna, founded in 1365; Heidelberg follows, being the senior of the universities in the German Empire, founded in 1386; then Leipsic, in 1409; Freiburg (Baden), in 1454; Griefswald, in 1456; Bale, in 1460; Munich, in 1472: Tübingen, in 1477; Marburg, in 1527; Königsberg, in 1544; Iena, in 1558; Würzburg, in 1582; Giessen, in 1607; Kiel, in 1665; Halle, in 1694; Breslau, in 1702; Göttingen, in 1737; Erlangen, in 1743; Berlin, in 1816; Bonn, in 1810; Zurich, in 1838; Berne, in 1834; Strasburg, re-established in 1872, originally founded in 1567.

A REMARKABLE MOTHER.—A Boston physician was called out of a sound slumber the other night to answer the telephone. "Hello! what is it?" he asked, little pleased at the idea of leaving his comfortable bed. "Baby is crying, doctor, what shall I do?" came across the wire. "Oh! perhaps its a pin," suggested the doctor, recognizing the voice of a young mother, one of his patients. "No," was the reply. "I'm sure it can't be that." "Perhaps he has the colic," returned the doctor, with well-simulated solicitude. "No, I don't think so," replied the anxious mother, "he doesn't act that way." "Well, then, perhaps he is hungry," said the doctor, as a last resort. "Oh! I'll see," came across the wire; and then all was still. The doctor went back to bed and was soon asleep again. About half an hour afterward he was again awakened by the violent ringing of the telephone bell. Jumping out of bed and placing the receiver to his ear, he was cheered by the following message: "You are right, doctor; baby was hungry."—*Chicago Living Church.*

THE CHILDREN'S PARTY.—

Miss Nellie McCarty gave a grand party,
   And who do you think was there?
Marigold Mary and Viscount Canary,
Red Tiger Lily and Joe Daffodilly,
   And Violet, fragrant and fair;
Saucy Miss Buttercup and Johnny-Jump-up—
   A boat load from over the bay.
They danced to a fiddle with "hands down the middle,"
Ate oysters and ices, rich sauces and spices,
   And went to bed sick the next day.

MUST BE THE RIGHT PLACE.—Tramp.—"Is this a lying-in hospital, mister?"

Janitor.—"Yes, this is a lying-in hospital."

Tramp.—"Then I guess it's the right place for me, for I've been lying out these three nights."—*Med. and Surg. Reporter.*

AN ASTUTE YOUTH.—The *Journal of the American Medical Association* says that a young man recently entered a dispensary in Chicago, and inquired if that was the place for the treatment of diseases of women. When assured that it was, he said: "Well, I've got a disease of a woman, and want to be treated."

THE THERAPEUTIC USES OF CUS.—In looking over the files of our esteemed contemporary, the *Dublin Journal of Medical Science*, for another purpose, we have recently noticed an article on "Cus," commending it as a reliable tenicide, with remarks as to the method of preparation that yields the most forcible product. We have no doubt it has been used in this country by patients affected by parasites; in fact, its association with helminthiasis is, to the minds of many, quite natural, but its employment certainly has not been restricted to that or any other special field. The native product, *C. Americana*, is said to embrace a large number of varieties and to attain a greater exuberance of development than its congeners of any other clime. In the mining regions of the Rocky Mountains and the Pacific coast, we find the *C. occidentalis*, a variegated and particularly florid specimen. It is used in large quantities and seems to be applicable to all conditions, much like quinine in the South, or whiskey in New York. It is not, however, incompatible with the latter drug. The dose varies greatly. It is usually repeated p. r. n., although we are bound to say that its effect is entirely incommensurate with the popularity of the agent. The philological reflection which comes late in the reading of the article in question, that possibly our contemporary may have had reference to the diversely spelled Kousso (Brayera, U. S. P.), would of course vitiate the above description. But in view of the much greater importance in this country of the agent we have described, we prefer to accept the more obvious interpretation.—*Boston Med. and Surg. Journal.*

MEDICAL NEWS.

AMERICAN DERMATOLOGICAL ASSOCIATION.—The tenth annual meeting of this society was held at Greenwich, Conn., August 25, 26, and 27, 1886. The following officers were elected for the coming year: President, Dr. H. G. Piffard, of New York; Vice-Presidents, Dr. F. B. Greenough, of Boston, and Dr. R. B. Morison, of Baltimore; Secretary, Dr. G. H. Tilden, of Boston; Treasurer, Dr. Le Grand N. Denslow, of St. Paul.

A communication with reference to the organization of a Congress of American Physicians and Surgeons was received, and a committee of conference, consisting of the officers elect, to report at the next annual meeting of the Association, was appointed.

THE MANUFACTURE OF QUININE BY SYNTHESIS.—A remarkable discovery, by which the price of quinine may be reduced to something like 3*d.* per ounce, has been made by Mr. Creswell Hewett. The synthetical manufacture of quinine was first suggested to Mr Hewett in 1866 by the late Dr. Mattheson, of St. Bartholomew's Hospital, whilst giving his assistance in a course of experiments in connection with apomorphia. Subsequently, Professor Parkes of Netley aided with his advice, and to these gentlemen, rather than to himself, Mr. Creswell Hewett modestly explains that the process is due. The importance of this discovery is rendered greater by the fact that, while hitherto we have been depending for our quinine on the cultivation of the cinchona tree, from whose bark only about two per cent. of good quinine can be extracted, ninety-eight per cent. being valueless, the drug can now be manufactured without limit by a very simple process from an article which can always be got in abundance in any part of the world. Mr. Hewett, we believe, intends to put himself in communication with the Government, who annually spend in India alone about £60,000 in the cultivation of the cinchona tree. —*Lancet.*

A PROFESSIONAL SINECURE.---It is officially announced that Señor Rafael Alcalde y Buril has been appointed surgeon-dentist to the infant king of Spain, whose birth lately gave rise to so much rejoicing in the Spanish capital. The *Globo* inquires, very naturally, whether the young king was born with teeth. In any case, the post of this professor of the gentle dental art will, for some months to come, be as much a sinecure as that of the surgical instrument-maker who was recently addressed by a country customer as "suspensory bandage-maker to Her Majesty."—*British Medical Journal.*

DEATH OF ANOTHER PATIENT OF M. PASTEUR.—A child, three years and a half old, is reported, in the *Semaine Médicale*, to have died lately from rabies at Teste. He was bitten by a mad dog on June 14 last. On the 16th he was brought to Paris, where, during ten days, he was submitted to Pasteur's treatment. After his return to Teste, the child was seized, on August 12, with the first symptoms of hydrophobia, to which he succumbed in a few days.

THE CHOLERA IN ITALY.—A despatch from Rome, dated September 12, states that the total number of cases in Italy since the outbreak of the disease has been 45,000, and the total number of deaths 14,000. On the 13th there were reported at Ravenna 13 new cases and 7 deaths, and elsewhere throughout Italy 97 new cases and 34 deaths. Recently no reports of the disease have been published.

BEAUMONT HOSPITAL MEDICAL COLLEGE.—A new medical college has been recently organized in St. Louis under the name above given. A large and substantial building, situated on the northeast corner of Sixteenth and Walnut Streets, was purchased in the early spring, and the necessary alterations having been completed, the first regular session will begin on October 4. Dr. W. B. Outten, Professor of the Principles and Practice of Surgery, is the Dean of the Faculty.

THE EFFECT OF THE EARTHQUAKE.—On September 3 it was reported that no less than ten births had taken place in the streets of Charleston. A young lady of Savannah, the daughter of a retired army officer, who, when a little child, lost her voice in consequence of an attack of meningitis, is said to have suddenly recovered it during the intense excitement of the first earthquake shock on August 31.

THE FEVER AT BILOXI.—On September 10 the Mississippi State Board of Health made the following announcement to all States interested: "We desire to inform you that our Inspectors at Biloxi telegraph us on the 8th inst. that all the former sick are now well. The work of disinfection has been most thorough and complete, and other sanitary measures carried out. They express the opinion that there is no necessity to continue the quarantine."

A CASE OF YELLOW FEVER IN NEW YORK.—The first case of yellow fever which has been reported in this city for over two years was brought to St. Vincent's Hospital from a sailors' lodging house, on September 5. The patient, who had been a fireman on the Steamship Alvo, of the Atlas line, from which he had recently landed, was transferred to the Reception Hospital at the foot of East Sixteenth St., where he died on the 7th.

THE NEW YORK POLYCLINIC during the Session of 1885–6 had a total of 240 practitioners in attendance upon the various Clinics, making, since the opening of the school in November, 1882, 812 matriculants. The annual announcement for 1886 shows that the list of Professors is almost identical with that at the organization of the Polyclinic. Dr. Leaming has now been made Emeritus Professor of Diseases of the Chest and Physical Diagnosis, but remains as President of the Faculty. The increase in the size of the classes has necessitated an increase in the number of Clinics, and during the session of 1886–7 it is announced that as many as 86 clinical demonstrations will be given every week. A Department of Otology has been created, and placed in charge of Dr. O. D. Pomeroy. The Laboratory of Pathology and Histology is in charge of Dr. John S. Thacher.

MORTALITY IN THE STATE OF NEW YORK DURING JULY.—According to the bulletin of the State Board of Health, the total mortality for July was 9,376, which 53.3 per cent. were under the age of five years. From zymotic diseases there were 3,515 deaths, a ratio of about 375.00 per 1,000 total mortality. From diarrhœal diseases, which largely preponderate over all other causes of death, the ratio per 1,000 is 287.56, or considerably more than one-fourth; they constitute more than three-fourths of the deaths from zymotic diseases. In July, 1885, the mortality being largely in excess of any other month in the year, was about the same as that of this month; the ratio, then, of deaths from diarrhœal diseases was 320.00 per 1,000, and to zymotic diseases about 75 per cent. From typhoid fever the ratio per 1,000 total mortality is 8.00; from croup and diphtheria, 40.95. From consumption the ratio of mortality is 101.22 per 1,000, and 217.91 per 1,000 above the age of five years. The combined death ratio per 1,000 from zymotic diseases, consumption, and puerperal diseases, is 482.08. From acute respiratory diseases there were 57.68 deaths per 1,000.

THE CHOLERA IN COREA.—San Francisco, Cal., Sept. 9.—A letter to the *Bulletin* from Seoul, Corea, dated Aug. 2, says that the deaths from Asiatic cholera from July 15 to July 25 numbered 3,140. Since then from 267 to 497 persons had died daily. Coffins could not be obtained and bodies were wrapped in sacking. In many places dogs and vultures had scratched away the light covering of earth and devoured the bodies.

KILLED BY A RATTLESNAKE.—An infant one year old was fatally bitten by a rattlesnake at Lancaster, S. C., early in September. Its mother went out in the morning to milk the cows, and put the child in a box near by. In a short time she was attracted by its screams, and, running to it, found that it had been bitten by a snake in nine places, one of which was on the lip. It is supposed that the child picked the snake up as it crawled to the box. The child died in a few hours.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.—The following officers have been elected for the ensuing year: *President*, Isaac N. Love, St. Louis, Mo.; *First Vice-President*, Joseph Robbins, Quincy, Ill.; *Second Vice-President*, Jacob L. Geiger, St. Joseph, Mo.; *Third Vice-President*, Thos. B. Harvey, Indianapolis, Ind.; *Secretary*, J. L. Gray, Chicago; *Treasurer*, A. H. Ohman-Dumesnil, St. Louis, Mo.; *Assistant Secretary*, Edward Allcorn, Houstonville, Ky.

AMERICANS AT THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.—Among the Americans registered as present at the meeting are to be found the names of Drs. T. H. Emmet and Fordyce Barker, of New York; J. S. Billings, of Washington; Wm. Brodie, of Detroit; J. R. Chadwick, of Boston; N. S. Davis, of Chicago; Frank Donaldson, of Baltimore; Charles Warrington Earle, of Chicago; H. O. Hitchcock, of Kalamazoo; F.H. Hooper, of Boston; Howard A. Kelly, of Philadelphia; W. T. Lusk, of New York; Hunter McGuire, of Richmond; R. B. Maury, of Memphis; W. H. Pancoast, of Philadelphia; W. F. Peck, of Davenport, Iowa; S. J. Radcliffe, of Washington; H. P. C. Wilson, of Baltimore; Jas. C. Wilson, of Philadelphia; and W. Gill Wylie, of New York.

NEW PROFESSORS AT THE UNIVERSITY OF VIRGINIA.—Dr. Wm. B. Towles has been elected Professor of Anatomy and of Materia Medica and Therapeutics, and Dr. Wm. Dabney, late President of the Virginia State Board of Medical Examiners, Professor of Practice of Medicine and Obstetrics and Diseases of Children.

ORGANIZATION OF THE MEDICAL PROFESSION OF GEORGIA.—The *Atlanta Medical and Surgical Journal* states that a movement is on foot for the thorough organization of the medical profession of Georgia, the movement having been inaugurated by the concise and comprehensive report which Dr. Wm. Abram Love, of Atlanta, made to the State Medical Association at Augusta, on the working of the Medical Association of the State of Alabama, he having been appointed a special delegate to that body.

AN ITALIAN FASTER.—A dispatch from Paris dated August 28, states that much curiosity is felt in the result of the Italian Succi's fast at Milan. "The morning dailies," it says, "teem with details of this remarkable case of resolute starvation combined with ever-increasing physical strength and unabated mental energy. The voluntary patient is under the watchful vigilance of physicians. He receives numerous visitors, especially ladies. A fee of 1f. is charged, and subscriptions for the 30 days can be had for 15f. The proceeds will be given to some charitable institution. Succi takes only vichy and Hunyadi Janos waters, mixed with pure water. He is to begin fencing, swimming, and riding in a few days, and on the last day of his fast will walk to Monza, a distance of 26 kilometers, and back again. He claims prodigious qualities for his herb, the avowed secret of his strength and fasting possibilities; but one physician states that it can only be a sort of grass well known among Malays and Peruvians, which paralyzes the stomach entirely for the time being. Succi bathes himself with sweet almond oil." A dispatch, dated September 13, say that Succi is in the best of spirits and shows no signs of weakness. He fences and swims daily. All that causes fear is the rapid daily diminution of his weight. His task is nearly ended. He proposes to repeat the fast in Paris in November and afterwards in London.

THE LONDON HOSPITAL SUNDAY FUND amounts this year to over one hundred and eighty thousand dollars, being $25,000 more than it was last year. The Hospital Saturday Fund is about $2,500 less than last year, a result which is attributed to unfavorable weather.

DR. L. B. ANDERSON, of Norfolk, Va., contributes to the August number of the *Southern Clinic* an able paper on Bacteriology, which is founded on his personal researches and observations, and is illustrated by a number of wood cuts from microscopic specimens.

D. F. E. DANIEL, editor *Texas Medical Journal*, has been tendered the Secretaryship of the Texas State Medical Association, made vacant by the death of Dr. Burt.

THE WIDOW OF THE LATE PROF. C. C. F. GAY, OF BUFFALO, presented to the Niagara Medical College the doctor's complete library, surgical instruments, and choice botanical collections.

A MUNIFICENT GIFT.—The Town Council of Edinburgh have instructed the Lord Provost to cable to Mr. Andrew Carnegie, the founder of the Carnegie Laboratory in this city, the thanks of Edinburgh for his donation to it of $250,000 to found a free library, and an acceptance of the gift.

THE LEE BOOK will soon be ready for sale, and is anticipated with much interest in literary and military circles. It is the memoirs of Gen. Robt. E. Lee, and his military history and campaigns—told by Gen. A. L. Long, who was his military secretary until near the close of the War, when he became Brigadier General and Chief of Artillery, Second Corps, Army of Northern Virginia.

Gen. Long has been greatly assisted in this work by Gen. M. J. Wright, who is now agent of the United States for the collection of Confederate records. He has thus had access to material within the reach of no one else. These two gentlemen enjoy the confidence of the people and statesmen of the whole country, and their work has the endorsement of the family of Gen. Lee. It is to be obtained only by subscription. For descriptive circulars giving terms, etc., address J. M. Stoddard & Co., Publishers, 622 F St., N. W., Washington, D. C.

DEATH OF DR. JAMES WAKLEY.—James G. Wakley, M.D., M.R.C.S., editor-in-chief of the *Lancet*, died on the 30th of August, at his country residence near Chertsey, of epithelioma of the tongue, with which he had been affected for about three years. His sufferings, particularly at the last, were very great, and death was finally caused by asphyxia, for the relief of which laryngotomy was ineffectually resorted to. He was sixty years old at the time of his decease. Dr. Wakley was the third son of the celebrated Thomas

Wakley, the founder of the *Lancet*, and his two elder brothers survive him. At the time of his father's death, in 1862, he became the editor of the great medical journal, and he devoted his life and admirable talents to the arduous duties of the position until last spring, when his failing health incapacitated him from attendance at the office, although he still continued to take the keenest interest in its affairs and to devote a large amount of time to its work. Dr. Wakley was passionately fond of country life, and, except when actually engaged in his editorial duties at the *Lancet* office, was seldom seen in London. He was held in the highest esteem by all, and regarded with the warmest affection by those who knew him intimately, while his benevolence to the poor will perhaps be remembered in the future as his chief characteristic.

Under his skillful and able management the *Lancet* enjoyed a career of ever-increasing prosperity, and only a few days before his death an address was presented to him by the present and past members of his editorial staff, in acknowledgement of their appreciation of his long and successful labors in its behalf. To this address he wrote the following affecting reply on the very day of his death:

"Heathlands Park, Longcross, Chertsey.
August 30, 1886.

"MY DEAR FRIENDS—On Thursday last, August 26, Dr. Glover and Dr. Coupland paid me a visit for the purpose of presenting me, in your names, with a very handsome address on vellum, and a number of letters from individual members of my staff. No words could express my feelings of gratitude to you for having in such touching terms conveyed your kind and generous sentiments. It is most comforting, in what I feel and know to be my last illness, to learn that my life-long work for the *Lancet* has merited and gained your esteem. Thanking you for your tender sympathy and regard,

"I am yours affectionately, JAMES WAKLEY.

"To the Members of the Staff of the *Lancet*."

Some time before his death he made a special request that the following confession of faith should be introduced into any notice of his life which might appear in the pages of the *Lancet:* "Feeling my deep responsibility to God for the position in which, in His providence, He has placed me, I desire to testify to the comfort derived during my sickness from a lively faith in our Lord Jesus Christ, and that I die in the sure hope of a glorious resurrection."

DR. CHARLES D. HOMANS, of Boston, died at Bar Harbor, on the evening of Thursday, September 2. Dr. Homans was born in Brookfield in 1826, and was educated at Harvard College, receiving his degree of B.A. in 1846, and of M.D. in 1849. His father, Dr. John Homans, was a noted physician in his time, and his grandfather was a surgeon at the battle of Bunker Hill. He was a member of the first surgical staff of the Boston City Hospital, and at the time of his death was the senior visiting surgeon to the institution. He was President of the Massachusetts Medical Society for two years, resigning only a few weeks ago, and at the time of his death he was President of the Massachusetts Humane Society.

DR. ALBERT H. CROSBY, of Concord, N. H., died of apoplexy, September 6, at the residence of his son-in-law, Cole H. Gilman, in Exeter. He was the eldest son of the late Prof. D. Crosby, and was born in Gilmanton in 1828. He was graduated from Dartmouth College, in 1848, studied law with his uncle, the late Hon. Nathaniel Crosby, in Lowell, and in the Harvard Law

School, and, after being admitted to the bar, practiced in Francestown, N. H., and New York City. He subsequently returned to Hanover, and studied medicine under the instruction of his father, receiving a degree from Dartmouth College in 1860. He located in Wells River, Vt., and afterward removed to Concord, N. H., where he resided until his death, except during the late war, when he served with distinction in the medical department of the army. He was one of the leading practitioners of the State, and for many years filled the post of physician to the well-known St. Pauls School, at Concord.

DR. THOMAS A. MCBRIDE, of this city, died on board the North German steamship Aller, at sea, while on his way home, on the 31st of August, of Bright's disease. He was born at Sandusky, Ohio, in 1844, and graduated from the College of Physicians and Surgeons, New York, in 1871. After a term of service on the house-staff of Bellevue Hospital, he commenced private practice in this city, and soon acquired great success by his many genial qualities and exceptional attainments. His diagnostic and therapeutic skill were held in high repute, and at the time of his death his services were much in demand as a consultant, especially in diseases of the nervous system and kidneys. He held many important and responsible positions, and was the author of many papers of great value. For a considerable time he was the chief editor of the *American Journal of Neurology and Psychiatry*, in connection with which he did some of his best scientific work. His loss will be keenly felt both by the profession and in social circles. Dr. McBride's remains were buried at sea.

DR. JOHN BURKE, a very successful and highly esteemed practitioner of this city, died at his residence in Lexington Ave., September 8, of pneumonia, at the age of 59 years. He was born at St. John, New Brunswick, and was graduated from the New York Medical College in 1849.

THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.—The Faculty has issued the following address to the Profession of the State:

"The Faculty of the Medical College of the State of South Carolina desire to announce to the profession in the State that the exercises of the College will commence, as usual, on October 15, next.

"In the great calamity which has befallen the entire city, the Medical College has been very seriously damaged—the roof being injured and the walls partially destroyed. The pediment and portico are entirely demolished. A new building will be immediately constructed, and every accommodation afforded to the students of medicine who may favor us by their presence.

"The faculty in this emergency trusts with confidence to the patriotism of their brethren of the profession, and to the whole people of the State, to aid them in their efforts to preserve and perpetuate a time-honored institution which has survived the shock of war, and which is dear to the hearts of its alumni in every State North and South. This faculty, amidst the general ruin which surrounds them, with the assurance of the aid and support of the medical profession, are firm and confident in their ability to vanquish difficulties which would otherwise seem insurmountable."

HELP FROM THE PROFESSION.

In a letter to Dr. F. P. Porcher, Dr. P. B. Porter, editor of *Gaillard's Medical Journal*, writing from Southampton (Long Island), says:

"In accordance with the suggestion in the newspaper clipping which I en-close, we propose to make an appeal for subcriptions for the Medical College (if the idea should be favorably entertained by the professor in Charleston) in the next number of *Gaillard's Journal.* Will you, therefore, please kindly write me at once what your views would be in reference to the matter, and if you favor the making of such an appeal send me such information in regard to the College and its needs as may seem to you likely to be of service in the matter."

The clipping is an extract from the New York *World*, and reads as follows:

"The physicians of Charleston are greatly concerned about the destruction of the South Carolina Medical College. The College, they say, deserves to be ranked as a national institution, as it stands among the foremost of its kind in the South. Its alumni are scattered all over this country, and some of them have achieved world-wide fame. An institution which was the alma mater of J. Marion Sims, T. Gaillard Thomas, and J. Lawrence Smith, must command the respect of the medical profession everywhere, and there ought to be a special subscription started to rebuild its fallen walls."—*Charleston News and Courier,* Sept. 15.

EDITORIALS.

A NOBLE CAUSE.—The news of the terrible disaster which wrought such destruction in the beautiful old city of Charleston was not received in time to call the attention of the profession to the needs of their brethren there in the last number of the JOURNAL. It was expected, however, to make a special appeal for the Charleston Medical College in the previous issue; but as such an appeal has already been published by Professor Thomas in the daily papers, it is with great pleasure that it is now inserted here. It has been deemed best, under the circumstances, not to start a separate subscription, and it is earnestly hoped, therefore, that all who are disposed to contribute to this most worthy object will send their donations at once to Dr. Thomas.

"Through a letter just received from Professor J. Ford Prioleau, Dean of the Faculty of the Medical College of the State of South Carolina, situated in Charleston, I have, as an Alumnus of that institution and a native of Charleston, been warmly appealed to in its behalf, and requested to solicit aid from the medical men of our country for the restoration of its buildings and appliances for instruction, which have been shattered by the recent earthquake.

"'I have been requested by the Faculty of this College,' says Dr. Prioleau, 'to write to you of the desperate condition of its buildings, and to ask you to endeavor to obtain for us some means of replacing the institution. Unfortunately, the property will not bear any security, and the friends who so willingly would help us are as much wrecked as ourselves. * * * It is with regret that we are forced to make this appeal.'

"The winter session of this venerable and eminent institution, which numbers among its teachers in the past Samuel Henry Dickson, Louis Agassiz, and Eli Geddings, and among those of the present some of the most worthy men in our profession, should begin in one month. If aid be not rendered it quickly as well as generously, its doors must be closed for the coming season. I will gladly receive all contributions for this purpose and immediately forward them to the Dean of the Faculty.

"T. GAILLARD THOMAS, M. D."

No. 600 Madison Avenue, New York City.
Tuesday, Sept. 14, 1886.

In connection with this appeal some items in regard to the College and its history, which have been kindly furnished by Professor F. Peyre Porcher and Professor J. Ford Prioleau, Dean of the Faculty, may be of interest. The Medical College of the State of South Carolina was chartered by the Legislature on the 20th of December, 1832. It was contemporary for a few years with the Medical College of South Carolina, which was established in 1824, and graduated its first class in 1825. The Faculty of 1824 consisted of J. E. Holbrook, S. H. Dickson, James Ramsay, Thomas G. Prioleau, H. R. Frost, Edmund Ravenel and Stephen Elliott, with Stephen Elliott as Demonstrator of Anatomy; Thomas G. Prioleau being the first Dean. This College was closed January 9, 1839.

The Medical College of the State of South Carolina has been in active operation ever since the date of its organization, with the exception of the period of the late war. In 1853 the State Legislature made an appropriation of $20,000 to the College for its museum, and for alterations in the amphitheatre and repairs upon other parts of the building. After the war it resumed its work with the session of 1865–6, when the expenses of attendance were greatly reduced on account of the impoverished condition of the people. Up to 1873 the classes remained small, but since then they have been growing in numbers, and the fees have also been gradually increased. The attendance, made up of students from the South and West, has sometimes been as large as 250 during a single session. The two colleges together have graduated 2,558 physicians.

The College of the State of South Carolina, in addition to the members of the Faculty of the old college just mentioned, has had among its Professors the following: John Wagner, John Bellinger, C. U. Shephard, E. Geddings, Louis Agassiz, P. C. Gaillard, J. T. Miles, J. F. M. Geddings, J. J. Chisolm, F. L. Parker, F. M. Robertson, R. A. Kinlock, J. Ford Prioleau, F. Peyre Porcher, George C. Trescot, J. P. Chayal, C. U. Shephard, Jr., Middleton Michel, C. F. Parkman and John Guiteras. Among its instructors have been, F. Wardeman, St. Julien Ravenel, N. P. Hayne, J. Dickson Bruns, Samuel Logan, Edmund Geddings, W. H. DeSaussure, P. G. Robinson, Manning Simons, and R. Barnwell Rhett. Much attention has been paid to clinical instruction in the neighboring hospital.

The Faculty has decided to announce to the medical colleges of the country that, in consequence of the calamity which has befallen the college, seriously injuring the walls and roof, and demolishing the pediment and portico, it is constrained to ask their assistance in the present emergency. It is proposed to erect temporary buildings at once, and to reopen the college as usual on the 15th of October. The rebuilding of the college, which it is estimated will cost about $5,000, will be deferred until later in the season. At present the institution is without funds. Dr. Thomas authorizes the editor of the JOURNAL to say that he will publish in it the results of the appeal made by him.

As to the physicians of Charleston themselves, they have suffered like the rest of the population; but they are not a class likely to receive any benefits from the contributions so generously poured into the city from all parts of the country. In addition to actual personal losses, they are now cut off, to a large extent from their usual revenues, on account of the financial straits of those who employ their services. "The profession here," writes one of the leading physicians of Charleston, "is, I think, far too sensitive for persons who have passed through such a catastrophe, and I am of the opinion (and others agree with me,) that they will continue for months to feel very seriously the effects of the losses by the general depression and suffering which have been entailed upon the people at large."

The *Medical Record* of this city has opened a subscription and made the following touching appeal on behalf of the medical profession of Charleston: "In the telegraphed reports of the calamity which has visited Charleston, much is said of the general distress which prevails, and instances of individual suffering are related, but we do not remember to have seen any mention of the trials of the physicians. As is usual at such times, they have been silently going about doing good and administering to the needs of others, while themselves homeless and ruined. Yet the wants of the business classes and of the laborers and others are telegraphed abroad, and appeals for help for them are made, while the physician, too busy in his work of mercy to think of himself, is suffering and toiling without one word of recognition or even thanks. We are permitted to present the following extract from a private letter from one of Charleston's best-known physicians to a medical gentleman in this city: "We are distressed," he writes, "almost beyond endurance. Our women and children are our sources of anxious solicitude. May God protect them in the open field, tenting in the night air! My entire family—wife and four children, the oldest eleven years of age—are out of house and home, like hundreds of other sufferers." * * * We think little more need be said to show the necessity of speedy aid for the sufferers among our own brethren in Charleston. There are no doubt many cases of individual want among medical men and their families, for while their services are in demand, and they are busied in attending to those suffering from injuries and the results of exposure, yet they are seldom paid, at least in cash. Their families are homeless and must be provided for, but food and shelter are not to be obtained without ready money in such times, and ready money the physician but rarely obtains. We therefore appeal to our readers throughout the country to help their brethren in South Carolina in this their hour of need. We are accustomed, by our very calling, to help others when in distress, and let it not be said that we are indifferent to the sufferings of those in our own ranks. Now is the time to help them, and he who gives quickly gives twice. The *Medical Record* will gladly receive subscriptions for this object, and will forward the amounts so received at once by telegraph."

The whole situation in Charleston is, therefore, one which appeals with special force to the medical profession of America, and it is only necessary, in conclusion, to remind our readers once more that whatever is done in the way of aid ought to be done at once.

ADVANCES IN THE SURGERY OF THE CENTRAL NERVOUS SYSTEM.—Under the above title Mr. Victor Horsley read a remarkable paper before the Surgical Section of the British Medical Association at its recent meeting at Brighton, which the *Lancet* not inaptly designates as *the* surgical paper of the meeting. As M. Charcot pointed out in his remarks in the discussion at its conclusion, it was of special interest as affording, first, new proofs of the value and legitimate use of animals for purposes of experimentation; and, secondly, important confirmation of the doctrines of localization of the functions of the brain.

In the paper were described the cases of three patients from the Bloomsbury National Hospital for the Paralyzed and Epileptic, who were also presented in person before the Section. The most striking of these, and one which furnishes a noteworthy addition to the literature of cerebral localization, was that of a man, the subject of epilepsy (which had previously been steadily increasing in the frequency and severity of the seizures), from whose brain Mr. Horsley removed a tumor, with the effect of entirely curing the affection. The remarkable point about the operation was that, without the history of any cranial lesion or any other guide whatever, the seat of the tumor was accurately localized by the manner in which the fits (to which it gave rise) invariably commenced, the muscles of the left thumb being always affected first in the attack. From his neurological studies, and especially from his personal experiments upon living monkeys, the surgeon was enabled to fix upon the exact point of the cranium which it was desirable to open for the removal, if possible, of the source of irritation; and the result was the brilliant success that has been mentioned.

This case is, then, of the greatest possible interest, as illustrating the marked progress which has recently been made in cerebral surgery, and especially the art of locating the seat of disease in particular parts of the cortical surface before resorting to operative procedures. The ability to do this has only been acquired by means of extended series of experiments upon animals, and the splendid practical results thus attained (among which should be included the great facility of operating without injury to the patient now possessed by the surgeon) are certainly to be regarded as not the least among the many benefits which suffering humanity has derived from vivisection. At the very outset of his remarks Mr. Horsley acknowledged his indebtedness to this means of investigation, and indeed laid special weight on the fact that all the advantages, both scientific and operative, claimed in his paper were the results of lessons learned from experiments on monkeys.

The other two cases described and exhibited, which, like the first, were characterized by epileptiform fits, were also cured by surgical operation, but they are not so remarkable as it, because in them there were external marks, produced in the one case by accidental injury, and in the other by trephining, these injuries having resulted in the scarring of the cerebral convolutions, as was shown when the cranium was opened.

As to the operative methods so successfuly practiced by Mr. Horsley, the following important points were specially referred to in the paper: (1) the preparation of the patient for the operation, which consisted in shaving the scalp, and then *thoroughly* cleansing the head; (2) the subcutaneous injection of a quarter of a grain of morphia, previous to the anæsthetic, for the purpose of producing contraction of the arterioles, and thus giving rise to less oozing; (3) strict Listerism, pure and simple—the spray was used, and the usual gauze dressings; (4) the line of incision—instead of the old-fashioned crucial flaps, a semilunar was advocated, as being easily displaced out of the way of the later steps in the operation, as less likely to suffer from interference with the blood circulation, and therefore with the vitality of the flap; (5) the use of large trephines—it was so difficult to hit the exact spot, and yet so necessary to have ample room, that the old small trephines were comparatively useless; (6) Macewen's plan of replacing the bone—the bone after removal was preserved in hot carbolized sponges, cut up into small pieces and placed in the opening between the dura mater and the scalp.

The brain being exposed, the first question to decide was whether it bulged into the opening or not—normal brain, Mr. Horsley said, never bulges at first; if an operation lasted an hour or more some bulging became evident. If the brain bulged at first, it was presumptive evidence of the presence of a tumor; a yellowish color and venous congestion were likewise suggestive points. The lesion being found, how was it to be treated? The use of the actual cautery led to secondary troubles, so he used a knife and excised what had to be removed, which must be all that was necessary, but not one bit more. There would doubtless be some considerable oozing at first; if so, a sponge should be pressed into the incision. The tumor or diseased part having been removed, it was desirable to close the wound as quickly and as accurately as possible; primary union of the skin flap was almost essential to success. Drainage was required for twenty-four hours only; if more serum collected, a small probe should be passed in to let it out, but a little tension did no harm, as it kept the brain matter in its place until cicatrization was complete. Hernia cerebri only occurred as the result of decomposition.

THE RELATIVE VALUE OF ANTIPYRIN AND THALLIN.—Although antipyrin has received a far more extended trial at the hands of the profession than thallin, the opinion has hitherto prevailed, to some extent, that the latter was in reality the more powerful and useful antipyretic agent of the two. This opinion, however, does not appear to be based on reliable data, and is not confirmed by the most recently reported clinical observations on the subject, which have been made by Raymond Johnson, M.R.C.S., House-Physician to University College Hospital, London, at the suggestion of the distinguished therapeutist, Dr. Sidney Ringer. He employed the drugs most extensively in cases of acute rheumatism. In regard to the use of antipyrin in this affection, he states that while many observers, including Neuman of Berlin, and Pribeau, have considered it equally beneficial with salicylate of soda, his experience coincides with that of Professor Dujardin-Beaumetz, who, after an extensive trial of antipyrin, concluded that, when used in acute rheumatism, it brings down the fever, but does not materially affect the joint symptoms. Mr. Johnson found that, after the temperature had been reduced to normal by the antipyrin, the other symptoms of the disease were rapidly removed by the administration of the salicylate; so that it seemed to him that, while one agent merely controlled one symptom of the affection, the other really struck at the root of the mischief. As to the use of thallin in rheumatic fever, he states that the frequently repeated doses necessary, and the very transient effect produced, compel one to consider this drug very inferior to antipyrin, notwithstanding slight advantages, such as rapidity of action, which it may possess. His general conclusion in regard to acute rheumatism is, that salicylate of soda remains *par exellence* the cure, but that antipyrin may be useful in those rare cases in which it fails to exert its apparently specific action on the disease.

Mr. Johnson also employed antipyrin and thallin in a series of cases of phthisis, and in regard to the results obtained he says: "The conclusion to which we are led seems to be that the effects of antipyrin in phthisis vary in different cases. In some it acts no better than thallin, and merely lowers the temperature without improving the general condition of the patient or retarding the course of the disease; whilst in other cases it is of great benefit—lowering the temperature, lessening the night sweats, and improving the nutrition. Whether the antipyrin thus acts by merely removing those conditions which are secondary to long-continued fever, or whether it has any more direct action on the disease-process, remains to be shown. The hæmostatic action which has been attributed to antipyrin by several experimenters has suggested a possible further recommendation for its use in phthisis when accompanied by hæmoptysis. It may perhaps be worth mentioning that in Case I. the severe hæmoptysis was not apparently lessened by full doses of antipyrin. The most important difference between these two drugs, which is demonstrated by almost all the cases in which they were used, is in the duration of their effects. The lowering of the temperature produced by antipyrin lasts usually for many hours. In one instance the temperature did not rise above 98.6° for thirty hours after the drug was stopped. The rise is gradual, and occupies several hours. Thallin, on the contrary, produces a very transitory effect, the rise often beginning within two hours after stopping the drug. This rise is very rapid, and hence is often accompanied by shivering."

Having referred to the various toxic effects which have been noted from the use of antipyrin and thallin, he states that during the administration of these drugs symptoms of collapse were carefully watched for. In the first case of phthisis detailed, marked prostration followed the use of antipyrin in three doses of ten, twenty, and thirty grains respectively. Similar symptoms were observed in a boy to whom three fifteen-grain doses were given at intervals of one hour. In none of the cases of rheumatism in which antipyrin was given did it produce any toxic effects, such as vomiting, prostration, etc. The sweating which accompanied the fall of temperature appeared to vary considerably in different cases. As a rule it was not marked, and caused no inconvenience, but in two cases of phthisis in which antipyrin caused collapse the fall of temperature was attended with very profuse sweating. In their tendency to produce shivering or rigors the two drugs differ, and this we should expect from a comparison of the rapid rise following the fall produced by thallin with the gradual rise after antipyrin, while all observers seem agreed that shivering and rigors frequently follow the use of thallin, but rarely of antipyrin. In every case of phthisis in which thallin was employed for any length of time, shivering frequently accompanied the rapid variations in temperature. In one instance a severe rigor, lasting nearly an hour, occurred during the use of one-grain doses hourly. The temperature rose from 100° to 104·8° in two hours. In a case of typhoid fever a similar effect was produced. One grain of thallin was being taken every hour on the twenty-first day of the disease. The temperature rose from 101·8° at 9 A.M. to 105° at 2 P.M., and at 1 P.M. a rigor commenced, and lasted for thirty minutes. The exanthematous eruption following the administration of antipyrin, which was first described by Dr. Ernst of Zurich, and has been seen by many other observers, but is rarely caused by thallin, occurred in the case of the boy mentioned above, in whom symptoms of collapse followed the use of three fifteen-grain doses of antipyrin. The rash appeared about one hour after the last dose was given. It consisted of small rosy-red spots over the chest and abdomen, and to a less extent on the limbs. On the face and neck the rash was confluent, and closely resembled scarlet fever. It lasted about an hour, and then gradually faded away. The peculiar appearance of the urine in patients taking thallin, which closely resembles that so often seen in the surgical wards of hospitals from the absorption of carbolic acid, constantly occurs.

The final conclusions at which Mr. Johnson arrives are announced in the following words: "Taking all things into consideration, it seems to me that the evidence is strongly in favor of antipyrin. Any slight advantages which thallin may possess are more than counterbalanced by the transitory nature of its action, the frequently repeated doses which are therefore necessary, and the great liability to the occurrence of shivering or rigors. This conclusion agrees with that of most German observers. Unless, therefore, future investigations shall disclose some yet undiscovered advantages in thallin, we may, I think, decide to employ antipyrin in preference to it in any case in which a rapid antipyretic effect is desired. Still more is antipyrin to be preferred in cases such as phthisis, where a long-continued use of the drug is necessary. Regarded as a purely symptomatic remedy, the unanimous verdict is that antipyrin is a most efficient agent." It is as yet entirely too soon to arrive at any positive conclusions as to the permanent value of the latest of all the antipyretics, which has been designated *antifebrin*, and which Cann & Hepp, of Strasburg, claim has about four times the strength of antipyrin, while no toxic effects have been observed from its use.

THE IMPORTANCE OF EARLY AND EFFICIENT TREATMENT IN CASES OF INSANITY.—In the admirable report for the last year of the Physician in Chief and Superintendent of the Pennsylvania Hospital for the Insane, Dr. John B. Chapin, it is stated that, of the patients admitted during the year, but 56 per cent. were cases of recent origin, and a large proportion were chronic. As might be anticipated, the recoveries were principally from the class whose insanity was of recent date—an experience which has been frequently presented in the reports of this and other hospitals—and the lessons of it cannot be too often impressed upon the profession and the friends of the insane. Delay in securing prompt treatment, Dr. Chapin thinks, is due to a failure to appreciate and recognize the nature and tendency of the disordered condition, to determine the cases that ought to be sent to a hospital, pecuniary disability, procrastination, a disposition to exhaust all other means before recourse is had to the hospital, and other causes, among which may be mentioned a traditional prejudice against hospitals, which are sometimes regarded as places in which the insane are to be placed for custodial care only, rather than for medical treatment for their restoration. While many cases that have come under observation during the year offered no prospect of recovery from the earliest manifestations of insanity, on the other hand, others had been negligently allowed to lapse into a state of incurability from the causes alluded to.

Having referred to the improved methods of treatment now in vogue in the best institutions for the insane, the doctor says, very truly, that, if it shall continue to be the experience of hospitals, that the insane for any reasons are brought for treatment at a later stage of the disease than is desirable, it becomes an important question how those persons who have experienced some of the premonitory indications of insanity, and who have not the means to enable them to secure proper treatment, may receive the advice they ought to have at this critical period. Physicians hesitate to make a certificate of insanity unless symptoms are very prominent, and, under the lunacy law, cannot be admitted and detained at a stage when the greatest prospect of restoration may exist. It is to their interest, that of their families, and that of the community which may be called to support them for months or years, that they recover as quickly as practicable. To afford those suffering from premonitory symptoms of insanity, or insanity in its incipient stages, prompt medical advice, the managers of the Pennsylvania Hospital have added to their Out-Patient Department a service for the gratuitous treatment of all proper cases of this class, which was opened November 1, 1885; and the physicians of the Department of the Insane attend in turn, twice a week during the year. Up to the date of the report, forty cases have been treated, and eighty-seven revisits made, while fourteen of the patients were discharged, recovered or improved. Of the importance of this service, and that it may be the means of doing a good work, no doubt exists; but whether the class it is designed to benefit will avail themselves of it is not yet demonstrated, and in this sense only can it be regarded as an experiment.

Death from Chloroform.—Another death from chloroform in this city has been just added to the long list of casualties from this cause. The anæsthetic was given for a very trifling operation, that for phimosis, and at the autopsy the heart of the patient was found to be entirely normal. *Science* is undoubtedly right when it says, in commenting on the case of Lady Flora Wilmot, who recently died at Swansea, England, after taking chloroform for the extraction of a tooth: "The evidences of the danger in the administration of chloroform are so overwhelming, except in a few cases, that no one is justified at the present day in using it in so simple an operation as the extraction of a tooth; and a jury would be doing its full duty in holding responsible for the death of the patient any physician or dentist who administered it in such a case with a fatal result." Is it not high time that the profession were abandoning the use of chloroform as an anæsthetic altogether, except in very rare instances, not only in simple but grave surgical operations, and confining its employment, as a rule, to obstetrical practice, in which its administration has hitherto remained remarkably free from accidents.

The Fund for the Medical College at Charleston.—Dr. Thomas sends the following report of subscriptions in aid of the Medical College of the State of South Carolina, the receipt of which he acknowledges with much pleasure:

Dr. Fessenden N. Otis,	$100 00
Henry Van Schaick,	100 00
Mrs. C. F. Woerishoffer,	100 00
George C. Magoun,	50 00
J. Metcalfe Thomas,	50 00
Howard L. Thomas,	50 00
A. L.	25 00
Dr. S. H. Dickson, U. S.N.,	25 00
Arthur J. Peabody,	25 00
Dr. Alfred Meyer,	25 00
Dr. P. F. Mundé,	25 00
Dr. Allan McLane Hamilton,	20 00
Dr. W. G. Russell,	20 00
Dr. R. H. Derby,	20 00
Dr. P. F. Chambers,	10 00
Dr. Thomas Wilson,	10 00
Dr. A. J. McCosh,	5 00
Total,	$660 00

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GAILLARD'S MEDICAL JOURNAL.

VOL. XLIII. NEW YORK, NOVEMBER, 1886. No. 5.

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ORIGINAL ARTICLES.

ARTICLE I.

THE DIAGNOSIS OF CERTAIN OF THE INFECTIOUS DISEASES.*—By EDWARD G. JANEWAY, M. D., Professor of the Principles and Practice of Medicine, and Clinical Medicine, in Bellevue Hospital Medical College, New York.

At the request of the President of the Association, I have consented to read a paper before you, concerning certain points in the diagnosis of some of the infectious diseases. The subject is one which does not have the merit of novelty to enhance it, and I would not have consented to carry out his suggestion had it not been that for a number of years I was so placed that it was necessary to give a great deal of attention to the matter, and moreover was enabled to see those circumstances which were most likely to lead to erroneous opinions, as well as at times to witness the sad effect of some of these. Hence, if novelty does not lend interest, it may be that the method of presentation, or some side-light which it may be my good fortune to throw on the shadowy places, may prove of benefit to some of my auditors when encountering an unexpected or unusual phase of some of these maladies.

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* Read before the New York County Medical Association, June 21, 1886.

The diagnosis of small-pox, when it presents itself with all its usual features, is a matter of no special difficulty to one who has seen even a few cases. Students of medicine in this country have, unfortunately, owing to the stringent isolation and quaranting laws, but little opportunity to become acquainted with the ordinary physiognomy of this complaint; moreover, owing to the system of persuasive vaccination carried on in this city, and presumably to somewhat the same extent in other cities of this country, for more than ten years there has been comparatively little of the disease. The figures showing the number of cases and deaths during the last ten years, contrasted with those of any preceding decennium, would surprise anyone not understanding the causes which have brought about the change. In a word, systematic vaccination, vaccination in the neighborhood where a case of small-pox has occurred, isolation or removal of the invalid, disinfection of premises, and subsequent careful outlook for other cases in the neighborhood, have been successful to an extent appreciated by few. But the outlook for the future is not so assuring, as the work of vaccination has been to a considerable extent crippled during this year; and a larger contingent of unprotected persons exists who may become victims to and spreaders of this affection. Hence, it behooves each medical man to be more particular about the early recognition of cases, and reporting them to the proper authorities. The writer has known the start of a considerable outbreak to be traced to a single erroneous opinion.

Another very unfortunate circumstance has happened which will tend to delay the prompt action desirable in dealing with the disease. The law has been invoked to inflict a penalty upon a physician who had reported a case of suspected small-pox to the Board of Health, and though an appeal such as has been taken will be in all human probability successful, yet the effect is unfortunate. If a lawyer or judge give or pronounce an opinion in a case which works to the detriment, or against the subsequently proved rights, of a lay individual, do we find that processes can be commenced against them for the effects of erroneous construction of the law? It seems to me—perhaps I am prejudiced—that the case of the physician dealing with disease, and particularly with one which is dangerous to the public health, should be protected by law. One of the greatest safeguards against an error of diagnosis, as regards small-pox, consists in having such a classification of the disease fixed in the memo-

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ry as shall serve to take count of the varied methods of its manifestation. Such a one I have endeavored to teach for several years past, and whilst I have found that others have used somewhat the same, yet this or that feature is lacking in most, and it is upon this that the matter hinges. In not a few text-books some important fact, bearing upon the methods of development of certain forms, if variable, is omitted.

- Purpura Variolosa.
- Variola Vera.
  - Confluent.
  - Semi-Confluent.
  - Discrete.
  - Corymbose.
  - Hemorrhagic.
- Varioloid.
- Variola Varicelloides.

The distinction between purpura variolosa and the ordinary hemorrhagic type where the blood is extravasated into the vesicle, should be kept in the mind, and it can be best accomplished by making such a classification as above delineated. A very good account is given by Curschmann, in Ziemssen's Encyclopedia, of the purpuric type. In my experience the failure to recognize, even to have any knowledge of, the existence of this form of the disease has led to very serious consequences.

The danger consists in mistakes between this form of the disease and the malignant type of the other infectious diseases, particularly measles, and much more rarely typhus fever, ulcerative endocarditis, and purpura hæmorrhagica. One of the first and most important questions must be, Has there been any possible exposure to any disease which could manifest itself in this way? and more particularly if variola has been thought of? A careful cross-examination of the patient and his friends should be made in this direction, and at the same time the possibility of a visit to a strange place, the getting of new clothing, etc., might, in the absence of any other clue, furnish one. Moreover, it would be wise to consider the prevalence or non-prevalence of variola in the city or country. In these days of rapid travel, with emigration to the West, in that section of country, as well as here, the recent arrival of strangers in the neighborhood must be considered. So, again, the research can be somewhat simplified by making particular inquiry about the possibility of exposure from nine or ten to fourteen days prior to the development of the first symptoms. Again, should it be learned that a possible exposure has happened, and to a case of disease of unknown nature, then it should be a part of our duty to ascertain, by inspection of such sick person or by inquiry of the physician in attendance, the nature of the illness. Let me give an illustration bearing on this very point. Some years since the writer was called in consultation to another city, to decide as to the nature of a strange variety of fever of which the person sick was the second seriously ill, one having died with a similar complaint over two weeks previously. When seen, the patient was sitting in bed, with very feeble pulse, only slight febrile movement, evidently very seriously sick, and showing evidences of dyspnœa, as these patients do, owing to the change of the blood, without lung complication. He had a wet cloth on the forehead, which concealed a number of purpuric spots in the skin of that part; over the chest, abdomen, and legs, these same purpuric spots existed. In one place only was there a small vesicle of no determinate character. At no place was there papule, or umbilicated vesicle. His mind was perfectly clear, and this was the sixth day of his illness. The hemorrhages had only appeared in the skin of the forehead on the morning of the day when I saw him, the eruption on the rest of the body having already existed for more than a day.

I suggested that the disease was in all probability purpura variolosa, in which opinion I received confirmation: 1st, by learning that this patient had attended the one who died, and had held her in his arms, the death having taken place about twelve days before the beginning of his sickness; and, 2d, by asking about the others who had been exposed during her sickness, and at the funeral, it was learned that a number were down with fever, and that one who had lived only a block away had an eruption. This proved to be discrete small-pox. The two cases with hemorrhagic extravasation were, then, undoubtedly variola, but of a form which none of the attending physicians had previously encountered. Quite an outbreak of variola occurred in that city. This case will illustrate better than any words these three points to be considered in establishing a diagnosis: 1st. It is important to know the nature of the disease from which this malignant case has developed, not possesssing in itself positive features. 2d. Should the case be dead, this may be done by an investigation of others exposed to the originating case, these having perhaps a milder and more characteristic type of the malady. 3d. The result of exposure to the malignant case may in some instances be a proof of the nature of the disease. In other words, we must take into consideration what gave rise to the disease in question and what has been produced by it. Even in a large city, and in the case of homeless tramps, a rigid inquiry and cross-examination will do much towards throwing light upon these cases. What I wish to emphasize is, that we must not be content to simply consider the eruption and the patient's condition, but must use every means in our power to establish a correct opinion as to the nature of the disease which has produced this state which is denominated purpuric or malignant. The cases of this nature which I have seen died on or before the sixth day of the disease, not of the eruption. It is a great mistake to suppose that hemorrhages from mucous surfaces, a previous diffused scarlatinal-like rash, or maculo-papules becoming flattened purpuric spots, are necessary accompaniments of this type of hemorrhagic variola. We meet variations from this from which I have described up to that in which characteristic spots of small-pox eruption occur, embracing those with these above-mentioned conditions. I will introduce another case to illustrate the necessity at times of making an autopsy to decide the nature of a doubtful disease. Whilst Commissioner of Health I scanned very closely the death certificates during the latter part of the year 1876 and the early portion of 1877. Small-pox was decreasing, and it was important to determine the nature of any doubtful case of disease, in order that prompt preventive measures might be employed at the earliest possible moment. A death certificate was received announcing cerebro-spinal meningitis. Owing to demonstrated previous mistakes between this complaint and hemorrhagic variola, I examined the corpse with Dr. J. B. Taylor. An enquiry showed that the patient had lived six days, that she had had severe headache, backache, vomiting, and fever, but no rigidity at the back of the neck nor back. An inspection showed the presence of some twenty petechial spots on the abdomen; on one in particular there was a vesicle. There was no eruption on the face or extremities. This case was sufficiently doubtful, being in a large boarding-house of questionable character, to determine me to send it to a place where a careful post-mortem examination could be made. This I did with my assistant, Dr. Putzel. The point to be determined was, Did a satisfactory explanation exist for the death? The brain, spinal cord, and other organs were normal, or rather only exhibited those slight parenchymatous changes characteristic of any infectious process in the liver, etc., with a few petechial spots in the serous membranes. The autopsy alone would not have enabled one making it to give a true death certificate; the vesicle on one of the spots of petechial rash would have made a careful observer believe that it was variola. I might add that preventive vaccination had already been performed in the house and neighborhood. But Dr. Taylor had a careful watch kept upon that house and upon those who had been exposed. The death certificate was changed to variola. Two weeks after her death, a gentleman who had been with her during sickness, and had refused vaccination subsequently, because he said that the disease was not variola, sickened with and died of confluent small-pox.

The writer had been threatened prior to this latter occurrence with direful punishment for his share in the investigation. This case during life was under the eye of an experienced observer, and no thought of variola had presented itself to his mind; and it well illustrates the departure from the ordinary appearances of the disease which small-pox may take, as well as proves the value of an autopsy in establishing the diagnosis, and the certainty which is acquired by watching the exposed.

The mistake between scarlatina and small-pox happens in those cases of variola in which a marked red efflorescence first occurs, in which darker spots and papules followed by vesicles shortly appear. In some cases petechiæ occur in places, and hemorrhages follow; and not seldom in severe cases I have seen the vesicles first on the inner side of the thighs and in the axillary space, the face being free. As the throat may be sore at this time, a mistake might occur were the order of events not kept in mind, which are, two or three days' sickness, and then the rash and sore throat and mouth, due to the eruption. A mistake which I have known to occur, is to consider the vesicles in such a case as sudamina. One point must be kept in mind, that an examination which leaves out an inspection of the abdomen and chest, particularly of the inguinal and axillary regions, will be very apt to lead to a mistaken opinion, in the case of a severe infectious disease.

Again, the mistake for measles happens in a two-fold manner. On the one hand, the first stages of the small-pox eruption, prior to the formation of the vesicle, leads one who looks hurriedly at a case, and does not consider the prior invasion symptoms, to speak of measles. The method of distinction of this type is in all the books. The other mistake occurs to one who looks at a severe case, having the skin red, and in it a number of dark maculo-papules, together often with hemorrhages of larger extent, and having hemorrhages from other places, as the nose, etc. One who had seen the first stage might have considered it, as already pointed out, scarlet fever, whereas a little later the numerous papules would lead to the mistake of black measles.

The mistake between syphilitic eruption and small-pox is most generally to consider syphilis as variola, and much more rarely variola as syphilis. Most of the mistakes are dependent upon want of close observation of the whole eruption, and of a consideration of the history of the case. I have observed cases of an eruption, seen for the first time, presenting as some of these syphilitic rashes do, an umbilicated vesicle, called small-pox, on which an examination of the whole body showed macule, papule, vesicle, and pustule prevailing alongside of one another, and the history given by the patient demonstrated that the eruption was already several weeks old. This multiformity of the rash, the condition of the glands, and the duration of the disease, will determine, in a large number of cases, the correct diagnosis, to which the history will add confirming evidence. I always recall two cases in which I had been requested to give an opinion. One concerned a man of fifty, in whose eruption a number of umbilicated vesicles appeared at those points where the eruption surrounded a hair. He had this multiformity of which I have been speaking, and, moreover, after the rash had existed two weeks there were still umbilicated vesicles and papules, an unheard of thing for variola. But an examination of his inguinal region showed the glands enlarged, and his penis, on inspection, had a characteristic indurated chancre. Notwithstanding these facts, one physician, who had seen him, persisted in considering the case variola.

The other was that of a young child who was unvaccinated, and lived in a room where one year before there had been a case of variola. In this case, also, a multiformity of the rash was present; it had lasted too long, and in addition mucous patches were present around the arms. The father admitted having had syphilis, and under appropriate treatment the child recovered. This case was used as an illustration of the long duration of vitality of the variolous virus. One additional point has been observed, viz., absence of the eruption on the hands and feet and in the mouth in cases of a syphilitic pustular eruption, otherwise pretty generally distributed over the body. In my experience syphilis causes more mistakes in diagnosis than any other disease or eruption, excepting only measles. The occasional occurrence of variola in wards devoted to syphilis has been noted. Such facts are only explainable on the supposition that a case of mild varioloid with but few spots of eruption had passed as syphilis.

Mistakes between variola and varicella are not infrequently made. The distinction of typical cases is sufficiently easy, though I must confess that students are not infrequently puzzled by finding divergent statements regarding the appearance of the varicellous eruptions, not only in different books, but also at times in different parts of the same work: one under the head of the appearances of varicella, the other in the consideration of the diagnosis between variola and varicella. At one time a physician of an institution was under treatment for varioloid, whilst the children of the same establishment only had varicella

The point which renders the mistake possible is paying too close an attention to the eruption, for at times we will meet with a slight induration at the base of some of the spots of varicella, due to irritation. A careful scrutiny will generally show on the back, buttocks, and behind the ears, characteristic spots, whilst in other places we find the eruption more or less altered. In doubtful cases between variola and varicella, attention should be had to the cause of the attack, if known, and the time of development of eruption after sickness.

A trained nurse last winter, after a few hours' sickness, was found to have an eruption consisting of small vesicles upon a red, and in some spots indurated base. I was asked to decide whether this were a case of varicella or varioloid. Her history developed the following facts bearing upon the question: She had nursed a patient with confluent small-pox one year before, and had been exposed to other cases at that time. She had had a successful vaccination. Two children who had not been vaccinated lived in the family with whom she boarded. Two weeks before the development of her rash she had been at this house, and one of the children was then, and the other had been, ill with an eruption like the one affecting the nurse, and appearing, as had hers, after a few hours' sickness.

They had both recovered. These children were vaccinated, and the vaccination was characteristic. Without this latter test the facts warranted a decision in favor of varicella. I would not have been so careful, nor would I mark out the lines for examination so carefully, did I not know of several cases of variola contracted from cases of supposed varicella, and, moreover, these cases had been pronounced varicella by careful and trained examiners. Moreover, Hebra never became an exponent of the opinion that varicella was a form of variola without having a certain number of facts to sustain him in that opinion.

I have met several cases of a varicellous-like eruption, so that with Gregory I believe in making a subdivision of varioloid which shall include this under the head of variola varicelloides. I was led to this opinion by observing several cases of vesicular eruption closely resembling varicella in persons protected by vaccination in houses where a patient was under treatment for variola. Another chance for error exists in the fact of the patient coming under observation at that time in the history of a mild variola when the vesicle is full. While in the Health Board I saw a case of this kind, the eruption scanty, superficial, vesicular, without umbilication; it had, however, existed four days. The patient's account of the preliminary sickness was not satisfactory. I suggested that, in order to ascertain positively the nature of her sickness, we should examine the people at the places at which she had worked and stayed for the three weeks preceding her sickness. This resulted in discovering that, at the hotel where she had been a waitress, several of the boarders were affected with variola, and, on still further inquiry, that they all had had a similar source from a person who had come from Philadelphia with a few pimples on his face. Moreover, she had stayed for a night at a house down-town, and two weeks afterwards an unvaccinated baby came down with well-marked variola. I could relate other cases, were it necessary, to show the difficulty sometimes encountered. Some of the cases with a light vesicular rash, in a house where variola existed, had hardly been sick. In one case I found the eruption on a boy brought from a house where small-pox had existed in order to be vaccinated.

At times dlfferent forms of skin disease are mistaken for variola, those which are most likely to lead to such a result being:

Herpes.
Erythema.
Urticaria.
Lichen.

Typhus fever, when well marked and presenting the characteristic eruption, occasions little trouble in making a diagnosis. The earliest cases of a visitation are, however, not always so well developed, and in consequence the disease gains headway in a city, and usually in those portions most calculated to promote a rapid spread. This was true of the outbreak of 1881; and it was possible to trace cases of fever to hospitals where they had received another than the true designation, even under the experienced eyes of those who had seen previous epidemics. It was no matter of wonder, then, that numerous illustrations occurred of mistakes of other diseases for typhus, and of typhus for other diseases. In children, particularly, there may be great trouble in deciding between typhoid and typhus, and that may even be true if a number of cases are examined on one occasion only.

Whilst typhus was prevailing, an outbreak of fever occurred in an orphan asylum, where, out of a number sick, there was no absolutely characteristic eruption. The attendants said that only a few had looseness of the bowels; nose-bleed had not been marked; and the record of fever had been kept loosely. It necessitated several days of study before an opinion could be given with some degree of certainty that the disease was typhoid fever. This was confirmed by several autopsies. Shortly after an outbreak of fever occurred in another institution of the same kind, where, so far as the characteristics of the sick children were concerned, it was no easy matter to say whether the disease was typhus or typhoid, but an adult inmate sickened with well marked typhus fever.

If we are able to study a number of cases, we may find the average duration a marked help in diagnosis—especially in adults. A fever, the great number of cases of which terminated, many of them comparatively suddenly, between the eleventh and fourteenth days, should always raise the suspicion of typhus. An autopsy should invariably be made as a sanitary necessity, to decide the nature of a doubtful outbreak of fever.

The lesions of typhoid are characteristic; those of typhus are in some respects negative; but, in practice, if one of a number of cases of fever, which has lasted longer than a week, should present on autopsy only an enlargement of the spleen, with minute hemorrhages on the serous membranes, and parenchymatous degeneration of the liver and kidneys, we would feel justified in considering it due to typhus fever in this climate. Where isolated cases are concerned, an examination of the intestinal mucus and of the muscle should be made, lest the trichinous disease might have posed in one instance as a fever.

I have been much struck by the value of an examination as to the nature of the disease occurring in the house or among the friends of a patient as an early help in deciding upon the true cause of a fever.

This is particularly true of hospital patients, who are, as a result of the disease, assisted, perhaps, by congenital deficiency, often too stupid to give a good account of themselves. The neglect of resorting to this means of information and diagnosis has been, in several cases in my experience, very unfortunate. As in the case of small-pox, I would urge upon the profession the wisdom of oftener resorting to this plan in forming an opinion. The Board of Health would do it on request. I am willing to admit that typhoid fever might occur with typhus, but, in practice, two or more persons, exposed to the same cause for fever, should, if becoming sick with a febrile complaint, notwithstanding certain differences in the manifestations, be considered as having the same disease. I am particular on this point, because, owing to some differences in the eruption, and certain minor details, I have at times been told that, of two members of a family sick, one had typhus, the other typhoid fever.

It has at times been taught that typhoid fever is not contagious, and hence that if several members of a family should sicken, one after the other, then, if the symptoms were not decisive, this contagious nature would point towards typhus. Taken as a broad generalization of city practice, it might be held true, but unfortunately we meet with enough exceptions, even in the city, to destroy its full value, and in the country we have the indirect contagion, if not direct, causing several members of a family to successively fall victims to typhoid. I have known the use of antipyrine to cause the appearance of a profuse, somewhat measly rash, which led the medical attendant to suppose that what he had previously considered typhoid was typhus fever. As regards diarrhœa, all practitioners know that not a few cases of typhoid run their course without it, and, again, that it may occur in typhus, though not possessing the peculiar color of the typhoid. Typhus fever is not alone likely to be considered as typhoid, but also to be mistaken for cerebral inflammation, and particularly for cerebro-spinal meningitis, in consequence of the occasional presence of a petechial rash in this latter. In doubtful cases optic neuritis, if present, would decide in favor of cerebro-spinal inflammation. But I must confess that, notwithstanding a considerable experience with cerebro-spinal fever, I have not as yet seen one of which the rash reminded me of typhus; it has, in the few cases which I have seen with petechiæ, been more like the occurrence in some cases of malignant small-pox.

Moreover, we very commonly meet herpes of the face and lips in cerebro-spinal disease, but so rarely as practically to amount to an almost pathognomonic sign against typhus and typhoid fevers, if present in a doubtful case.

In fact, if you will pardon a digression, herpes, found as a diagnostic criterion, points against typhus and typhoid, but may occur in so many other conditions that, in a given case in which it is present, we can merely, in all probability, decide against these fevers. Having paid attention to this point for years, it seems a useful generalization. Flea-bites occurring in typhoid fever have, in some instances within my knowledge, caused a diagnosis of typhus fever; so, again, has a profuse rash in which a number of *taches bélenatres* of the French were present. It might be of some interest to you to know that I have endeavored to ascertain how far it was probable that pediculi pubis were the cause of this eruption. I must confess to having seen these without the spots, and again to have met the spots, with no proof that these parasites were or had been present. It is a matter of which I intend to continue the investigation, though I do not anticipate any success.

Tuberculosis is a condition which causes not a few mistakes in the diagnosis of typhoid fever, and at times of typhus. Perhaps of late years typho-malarial has borne the burden. Meningitis is so rare a complication of typhus or typhoid fever that its existence should always raise the suspicion of another process, and more particularly of tuberculosis. If under these circumstances choked disc should be found by ophthalmoscopic examination, it would still further increase the probability of this process. The next step in diagnosis would be to ascertain if at any point of the body there existed a tubercular lesion accessible to proof or strong suspicion; or if, from the previous history, there was any probability of such a condition in the lungs. It should be borne in mind that the examination of the lungs in unconscious, and particularly comatose conditions, is extremely unsatisfactory, and that very good examiners have supposed the lungs to be healthy when making examinations in those states while they were the seat of far-advanced phthisical processes.

If decided proof exists, as a result of a physical examination, that the lungs are the site of disease which, from its position, can be assumed to be tubercular, then it would, with the foregoing facts, be violence to evidence to call the disease typhus or typhoid, unless absolute proof of their presence could be obtained, as by the eruption of typhus. Some suppose that the finding of bacilli of tubercle in the sputum will invariably decide the question between typhoid and tuberculosis, as in cases seen moderately late in the disease, without a reliable previous history, a broncho-pneumonia of typhoid, and that accompanying certain cases of tuberculosis, may be indistinguishable by physical signs. Providing that the examination is made with care, that bacilli are present, and more particularly that every precaution was taken in collecting the sputum, to be certain that there was no contamination of the vessel, nor of the sputum after collection, then the presence of indubitable bacilli would be proof. But—and this is the point to which I would particularly draw your attention—if it is supposed that anyone can make the examination and decide, and if the ordinary manner of collecting sputum is employed, then there are chances for error.

Again, bacilli may not be found in the sputum from tuberculous patients, because of lack of care in selecting the proper portions for examination, and in some cases as a result of employing the short method for staining. Whilst I have been able to make some very good diagnoses by the employment of these means, I have also met cases where phthisis had been diagnosticated as the result of the finding of a few bacilli; yet the subsequent course of the disease, or an autopsy, disproved the diagnosis. There are certain things which a hasty observer may mistake for bacilli, as little crystals which appear red as the light is refracted in passing through them, cracks in the preparation, not sufficiently decolorized bacteria of other kinds, etc.

The writer has seen both typhoid and typhus fever coexistent with phthisis.

Pyæmia, and more particularly that which is dependent upon otitis media, and bacterial thrombosis of the lateral sinus, cause mistake in diagnosis as against typhoid and typhus fever. The reason for this consists in the fact that in the unconscious or delirious state in which these patients come under observation, more particularly in hospital practice, no mention is made of the old ear-trouble, and the examination of the ear is omitted or the discharge from it has ceased. But I have known the same circumstances to mislead in private practice. The simple allusion to the condition as liable to cause mistake will suggest the lines of investigation for discriminating these states. The ordinary occurrence of typhoid and typhus are sufficiently known. The irregularity of the fever, the not infrequent co-existence of meningitis, or of cerebral abscess, with phenomena more or less strongly suggestive of these conditions, the history or the present observation of suppurative discharge from the ear, and that it has perhaps become foul or been arrested, tenderness or œdema over the mastoid process, and the observation of abscesses in the cellular tissue, or joint inflammation, should at once lead to a probable diagnosis of otitis media. The swelling of the little vein behind the ear, and the œdema of the tissue over the mastoid, may be absent in severe disease and present where the subsequent course demonstrates that the process was not pyæmia. In one instance of a woman with severe fever, which had been supposed to be typhoid, I found as a useful adjuvant thrombosis of the internal jugular vein, giving a firm feel to the vessel. During the present year I have met three illustrations of this malady, and in one the thrombosis of the lateral sinus was not of a completely obstructing nature, and in consequence the œdema behind the ear, as above mentioned, was absent. In a suspected case jaundice would point towards pyæmia or septicæmia, as distinguished from the fevers in which its occurrence is comparatively rare. Such jaundice was present in one of these three cases observed this Spring.

The term typho-malarial fever has led to much confusion in diagnosis of the fevers, and also to some detriment to the public health. It has been customary, to my knowledge, for not a few practitioners to use this term when meeting with any unusual fever-curve, instead of investigating as to the possibility of such irregularity denoting another than the suspected fever. It does not seem to the writer that it is possible to admit of the use of this term in any other sense than that adopted by Prof. Flint in his Practice of Medicine—viz.: as indicating an addition of the symptoms of malarial poisoning to those of typhoid fever, hence rendering the course of the disease peculiar. Dr. Woodward, the propounder of the name, with a belief that it was a special variety of fever, came to hold this view also. Yet the persistence with which the term is adhered to, under the impression that it is really indicative of a special form of fever distinct from typhoid, shows the necessity of attention to this matter.

It has often appeared to the writer that it would have been wiser to have dispensed with the term, and under the head of typhoid fever considered the malarial poisons as capable of producing a considerable variation in the ordinary course of a typhoid fever.

The irregularity with which the term is used is due to three facts in the course of the fever of typhoid. 1st. The fever of typhoid is remittent in character, with a gradual rise during the first week of its course. 2d. This same remitting character is seen in the latter part of the course of many typhoid cases. 3d. The occurrence of sepsis in the course of a typhoid will also produce an apparent malarial or remitting character to the fever. Hence, those who do not pay particular attention to these points are misled in considering cases of typhoid as typho-malarial, as a result of this character to the fever.

Should chills or decided variation of the temperature come at certain periods of each day or alternate day, then in a malarial district it would be right to assume that the combination was present. In a large experience in New York City it has extremely rarely happened that, in a person dead of a typhoid fever, evidences were found at the autopsy proving the existence of a malarial poison. Such did happen last year, as some of you may remember, in a woman who had fever following confinement, and commencing within fourteen hours after that event. In this instance it was supposed that puerperal fever was present by several who saw her, and suspected as possible by all. Preceding her confinement she had resided in a malarial portion of New Jersey. At the post-mortem examination both the liver and spleen showed evidences of pigmentation as a result of the bygone malarial poisoning, for she had been cured six weeks before the typhoid began; besides the pigmentation the ordinary lesions of typhoid were encountered. In other portions of the country I have no doubt that this combination would be more frequent.

Yet, to show the other side of the picture, let me allude to two cases of fever, one of which, a young man, died at Bellevue Hospital; his room-mate, who had been sick at home, also died, and his death certificate had been signed by a reputable practitioner as typho-malarial fever. I made an autopsy in the case of the young man who had been ill at Bellevue Hospital, and the only lesions present were those of an ordinary typhoid. So, also, not infrequently, when an outbreak of fever occurs in a country town or institution, it is not uncommon that the disease is supposed to be typhoid by some, typho-malarial by others. I have had the opportunity to examine, in some cases of this kind, with the result of finding that typhoid was the disease. How shall such mistakes be avoided? Simply by making a careful study of each case of fever and keeping careful records of the course of the disease. It will soon be found that the phenomena in many, even if somewhat modified in some, point decidedly to typhoid, excluding the possibility that typhus might be present. Even in very malarial districts I have no doubt that many of the cases of typhoid will run a perfectly characteristic course unless disturbed by medication. Of course, such medicinal interference will alter a temperature chart, and we must be prepared to see such differences. There is still another point about an outbreak of typhoid, when occurring in an institution or place where, as a result, a number are affected, and that is the short course of many cases. This also helps to explain the use of the term typho-malarial; for many hesitate to speak of typhoid fever unless the disease runs the usual duration. Yet in any outbreak involving a large number of people a certain number will have a very short course, three to ten days.

There are many other points of interest about this subject, but enough has been presented in the time at our disposal to serve as matter for discussion.

ARTICLE II.

SOME CONSIDERATIONS RELATING TO CARDIAC SOUNDS AND MURMURS.

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Many of us have so frequently been obliged to modify our prognostications in cases of heart disease, and notably in instances where patients have progressed more favorably than had been anticipated, that I feel we can profitably go over the diagnostic lines, and possibly reset some of the land-marks. Disease of the heart is a subject of first importance not to the general practitioner alone, but also to the specialist in each and all the divisions into which the practice of medicine has been broken.

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* Read before the Second District Branch of the New York State Medical Association, at Troy, June 22, 1886.

It has been my custom to form an opinion as to the probable future of cases of cardiac disease coming under my observation, and in the opinions thus formed I have found myself repeatedly in error. I can now recall the cases of men and women who have assumed and discharged the duties of business and married life, and are still enjoying what is, at least apparently, good health, though twelve or fifteen years ago, basing my opinion on what I believe to be the common interpretation of the signs of cardiac disease, I had anticipated a short duration of life.

In any prognostic estimate of cardiac disease it is important to ascertain, when it is possible so to do, whether we have to deal with an acute or chronic lesion, for should the trouble be of recent origin the functional action of the organ may be profoundly disturbed, and murmurs even appear, without the grave significance which would attach to a similar variation from the normal standard in a chronic case. It is a fact that in recent cases a process of repair or accommodation may develop which will materially improve the physical conditions. Notable examples of this favorable progress must have occurred in the practice of the majority of physicians, in which, during a primary attack of rheumatic fever, the physical signs presumably denoting mitral incompetency or aortic obstruction have developed and continued for some time, to be gradually and finally lost, the heart-sounds assuming a normal or nearly normal condition. Doubtless some of these cases are instances of organic rather than dynamic changes in the heart, and this can be conceived and understood on the supposition that the endocarditis has produced a thickening or deformity of the valves or other sound-producing parts, but by a fortunate process connected with the nutrition of the involved parts absorption and repair have been so adjusted as to allow a return to a condition of functional competency.

At present I think we more frequently encounter improvement of this kind; though I can give no statistics bearing on the subject, and I believe the treatment of rheumatism—which has been so prolific a source of valvular lesions—by salicylic acid, has been the means to the improved results, if they in fact exist. At any rate, it is important in all cases of acute endocarditis to avoid giving a definite prognosis, for the conditions do not then exist upon which a safe opinion as to the future course of the case can be based.

With this introduction I shall ask you to review with me the sounds and murmurs connected with the heart in health and disease, excluding pericardial and myocardial affections. The sketch will necessarily be condensed, though, for the sake of unity, much of it will be a tale more than thrice told, and therefore probably wearisome; but, from my observation of the diagnostic methods of physicians in cardiac disease, I feel that it will pay to occasionally review every step of the process connected with the production, recognition, and interpretation of the sounds and murmurs.

It has been a subject of interest to me to trace the theories relating to the causation of the normal heart-sounds, and I have been surprised to note the valuable clinical indications connected with examinations of the heart, before our present simpler or rather more rational explanation of the method of the production of the sounds was formulated.

Laennec had a very simple method of explanation, ascribing the first sound to the ventricular systole without describing the method of its production, while the second sound he attributed to the contraction of the auricles. The period of silence must have occurred, therefore, while the ventricles were concluding, as it were, to respond to the distension supposed to have been brought about by the auricular systole.

By the time of Dr. Walsh the subject had been extensively studied, and the theories had developed considerable complexity. Dr. Walsh, in an analysis of the possible causes of the heart-sounds, concludes that the first sound is mainly due to "shock between the advancing blood from the ventricles and the momentarily fixed blood in the large vessels," while as a "constant accessory of noise" is the "forcible shock of fluid against resisting tissue—that of the blood against the orifices of the large vessels," and "as occasional accessory causes of noise" are placed "impulsion of solid against solid—that of the heart's apex against the chest wall," and "abrupt friction of surfaces—that of the two layers of the pericardium." He excludes from the category the "long accepted theory of valvular vibrations." As to the second sound, Walsh ascribed it to "the recoil of the blood on the surface of the sigmoid valves, and the sudden tension of those valves," an explanation now generally accepted, though the latter element, *i.e.*, the tension of the valves, is now, I think, given the major position as a cause.

Bramwell, in his recent and valuable treatise on diseases of the heart, says, that the first sound "is mainly produced by the sudden tension of the auriculo-ventricular valve segments and their chordæ tendineæ, partly by the contraction of the muscular walls of the ventricles."

The majority of recent authors on diseases of the heart agree in ascribing the heart-sounds *mainly* to two causes—valvular and impactive—the first sound being due to the closure *and tension* of the mitral and tricuspid valves, together with the impact of the apex with the thoracic parieties, while the second sound, as stated before, it is agreed is due to the closure and tension of the aortic and pulmonary semilunar valves.

The method of the production of the normal heart-sounds has been a fruitful source of controversy, and even now there is not entire accord among writers on the subject.

To me the matter has been much simplified by accepting that any motion or condition of the heart, as a whole, or of any of its parts, capable of producing vibrations communicable to the ear through the contiguous or continuous parts, was entitled to consideration as a factor in the production of the heart-sounds. In studying the heart-sounds from this standpoint, physiological experiments and clinical observations fortified by post-mortem examinations are to have the first hearing, but it is improper to decide in opposition to simple accoustic laws when the subject is still fairly under consideration.

For my own purposes I early excluded from practical participation the so-called " muscular element " *per se*, due to the contraction of the cardiac muscles, for I have never been able to convince myself that muscular action, considered apart from the displacement and vibration of conducting media, could produce a sound in itself of sufficient intensity to be susceptible of recognition, let alone the question of its clinical usefulness. The same conclusion I believe to be fair in relation to the effect of the constituent elements of the blood, for I can find no rational evidence, or clinical observations, which would convince me that the cardiac sounds or murmurs would be materially influenced by the quality of the blood passing through the cavities of the heart, in so far as the structure of the blood itself is concerned. I shall refer to this point again.

As to the effect of the blood in columns or masses, tending to move in opposing or different directions, as the impulsion of the ventricular against the arterial mass, or the mingling of the reflux current in aortic insufficiency with the blood from the left auricle, I believe a prominent place should be given in the causation of the heart-sounds and murmurs, and in particular these "fluid veins" should be considered in connection with the production of the murmurs. The sudden and forcible projection of the ventricular blood against and into the columns of blood in the aortic and pulmonary artery must produce vibration in a greater or less degree in the walls of these vessels, and it is a matter of common observation to recognize sounds by auscultation over the large arterial trunks which physiology and clincial experience agree in ascribing to the movement of the blood within these vessels. That portion of vibrating movement in the large vessels which is located in the immediate vicinity of the heart must enter as a factor in that sum total which constitutes each of the heart-sounds, and no doubt it is one of the factors contributing to the prolongation of the first sound.

There is another anatomical element in the structure of the heart which should receive due consideration in an analysis of the causes of the heart-sounds. I refer to the chordæ tendineæ. On the forcible closure of the auriculo-ventricular orifices the chordæ are rendered tense, and in stating that the beginning of the first sound is valvular in character, it is doubtless necessary to include, to a limited extent, this element. Certainly no arrangement in the heart is apparently better adapted to the production of vibrations than these chords or strings, while the fact that their vibrations can readily be modified by the action of the muscular columns to which they are attached I think no one will deny.

I conclude that the heart-sounds are produced as follows: The first sound begins with the closure and tension of the mitral and tricuspid valves, and is continued—first, by the vibrations which occur in connection with the rapid movement of the blood from the ventricles through the arterial orifices, and into the columns of blood in the arteries themselves. Second, by the impact of the heart with the chest-walls; and third, by the vibrating tension of the chordæ tendineæ.

All are agreed that the second sound is due to the closure of the semilunar valves, and, indeed, the abolition of the sound by the experiment of hooking up the valve segments, as has been done on animals, is conclusive evidence as to the cause of the sound.

Having recognized that the valvular mechanicism enters as an important factor in the production of the cardiac sounds, it is manifest that the appreciation of the share borne by each valve must prove of value in diagnosis. In 1858 our late associate and revered and beloved Fellow, Dr. Austin Flint, read before the American Medical Association a paper, it being a prize essay, in which he dwelt upon the means of recognizing the element of sound to be attributed to each valve; and again in 1884 he read an article at the Washington meeting of the same association, on the special subject of the recognition of the several valve sounds. The twenty-six years which had intervened had not borne fruit in the general adoption by the profession of the clinical study of the valvular elements. The special means whereby the share of each valve in the production of sound may be recognized have been occasionally set forth and criticised; but I am convinced that the clinical value of the original idea of the study of each valve sound by itself has not been duly appreciated by the profession, while quite often the measures whereby the sounds are analyzed are not recognized, or at least systematically practiced.

The clinical study of the normal heart-sounds is most conveniently and satisfactorily made by the recognition, first, of the composite sounds, and then in detail each valvular element. By auscultation at the position of the apex beat, the element of impulse is heard at its maximum, while the other elements contributing to the production of the general sounds are then heard in a greater *average* intensity than at any other point on the body. It is well, then, to begin the examination of the heart at the apex beat, and as the stethoscope is applied to points at increasing distances therefrom the sound of impulsion gradually diminishes, as do also other elements of the sounds, till on certain lines of auscultation only a valvular element remains.

The sound of impulse is ordinarily confined to a comparatively limited area at the apex and somewhat upwards and to the right over the body of the heart.

I do not regard it as possible to give the true and manifest reasons for the propagation of the valvular sounds in certain directions, or rather why the sounds are best heard at certain points; but there is now a virtual agreement that the sounds can be so isolated and studied, and whoever avails himself of the information to be gained by such an analysis will be in a far better position to estimate the gravity or innocuousness of cardiac lesions.

As the stethoscope is moved from the apex toward the left on a nearly horizontal line, or possibly slightly upward, the impulsive element of the first sound is gradually diminished, and at a varying distance, from one to two inches, the first sound becomes short and nearly entirely valvular in character, and this element is now known to be mainly contributed by the mitral valve. I say mainly, for I believe that it is possible to hear slightly the tricuspid element, and, if so, the auscultator should be on his guard not to include that element in estimating the competency of the mitral curtains.

If, on the contrary, the examination be extended horizontally to the right from the apex, at about the sternum, or possibly better at its right border, the sound of impulsion is again nearly lost, and a short, valvular first sound remains, due to the closure and tension of the tricuspid valve.

If the stethoscope be applied at the second intercostal space, or over the third costal cartilage near the left border of the sternum, the first sound is heard in diminished intensity, and with little of its booming quality, and that portion of the second sound due to the closure of the pulmonary valves is brought into its greatest prominence, while at the second intercostal space, or over the second costal cartilage at the right border of the sternum, the aortic second sound is best heard and studied.

My usual course in examining the heart is as follows: The chest being preferably fully uncovered, and inspection having been completed, I apply the stethoscope for the purpose of hearing the composite sounds and to locate the apex beat, and I find that this procedure will often serve as a means of palpation. Having located the apex beat and listened to the general cardiac sounds, and appreciated the force of the cardiac systole, I move the point of examination to the left until I can hear the mitral first sound as *the* prominent sound ; from this point I ascend obliquely toward the left border of the sternum at the second intercostal space, and at a point about midway on this line it is possible to make a fair comparison between the mitral first and the pulmonic second sound, there being quite a distinct interval between them from the elimination of most of the elements which go to the prolongation of the first sound. I then place the stethoscope at the second intercostal space, or over the third costal cartilages as may prove more advantageous, at the left border of the sternum, where the pulmonary second sound is best heard, which is to be compared with the aortic second sound, which in turn is next studied at the second intercostal space or over the second costal cartilage at the right border of the sternum. The next point for the application of the stethoscope is over the lower portion of the sternum, or at its lower right border where the tricuspid element of the first sound is best heard. In individual cases these points of maximum intensity may be slightly varied, but the variation and the occasion therefor will be readily recognized by the examiner.

It is, however, a clinical fact that the rapidity of the heart's action may be so great, and the cardiac sounds of such feeble intensity, while the rythm of the various sound elements may be so disturbed by the asynchronous action of the ventricles, that it becomes often very difficult, and occasionally impossible, to make a satisfactory investigation of the separate sounds, but a renewal of the examination at another time, or by care in comparing the relation of the sounds to the apex beat or the carotid pulse, not, however, with the radial pulse, order and system may be recognized in the apparent confusion, and finally a complete recognition of the different sounds; and in this way the want of synchronism in the contraction of the auricles or ventricles may be recognized as well as the cause if it be organic.

By means of this analysis we have, as was suggested by Dr. Flint, five instead of two sounds, three of which are systolic in time, consisting of one each for the tricuspid and mitral valves, and one resulting from the union of the valvular elements in connection with the sound of impact with the thoracic parieties, the sound from the eddies of rushing blood, and the vibration of some of the anatomical elements of the heart, which, taken together, may be called the sound of impulse. The two diastolic sounds are respectively the aortic and pulmonary, or pulmonic, if it be considered preferable to have a common literal termination.

Having been able to isolate the sounds produced by the several valves, the significance to be attached to an increase or diminution in the intensity, or a total abolition of each sound, is to be considered, and in investigating the question of intensity it is well to remember that the readiness with which the heart-sounds are heard depends upon conditions influencing their transmission through the thoracic parieties, as well as upon their actual force or feebleness. Excessive development of fat notably enfeebles the heart-sound, while in very obese females it is often very difficult and occasionally impossible to satisfactorily analyze the sounds—particularly the elements constituting the first. Pneumo- and hydro-thorax, consolidation of and cavities in the lungs adjacent to the heart, also influence the transmission of the sounds, generally intensifying them.

Now, in relation to the sounds in detail. First, we will consider the sound of impulse. It is increased in those conditions which favor increased power in ventricular systole, and is present in the true or solid hypertrophy, being then associated, as a rule, with deliberate ventricular contraction, and connected usually with some obstruction at the aortic or pulmonary orifices, or in the systemic circulation, as in cases of fibroid kidney, though in the latter disease it is probable that there is less slowness of contraction than in aortic obstruction. The sound of impulse is also increased by emotional causes, occasionally even to the point where it becomes auto-audible, but the hurried action of the heart and attention to the general condition of the patient, a prolongation of the examination or its postponement will serve to avoid erroneous conclusions in this connection.

A diminution of this sound is due to any condition that enfeebles the action of the heart, as fatty degeneration, dilatation, hemorrhage, certain depressing drugs, pericardial effusions, the protracted fevers, and, occasionally, emotional influences.

The mitral sound is increased by emotional or other causes which favor the *quickness and force* of the contraction of the left ventricle. Dilatation of the left ventricle—the mitral curtains being still competent, and the ventricular systole not being exceedingly weakened, increases the mitral sound and justifies the theory of Dr. Flint, that the extent of the excursion of the segments of the valve in closure is an important factor in the production of the sound. On the contrary, solid hypertrophy of the left ventricle, and in particular when associated with aortic regurgitation, is accompanied by diminished intensity of the mitral sound. This fact is of great importance, particularly as a contrary conclusion might readily be reached from the conditions apparently favoring a forcible closure of the valve. In cases of aortic insufficiency, whether, as was suggested by Dr. Flint, the *floating* of the segments of the valve by the reflux current so that even approximation may occur before the beginning of the ventricular systole is the reason for the notable diminution of the sound in that condition or not, can not be experimentally determined, but it is the most rational explanation of the fact, and of the fact there is no doubt.

The deliberateness of contraction in solid hypertrophy may also operate to lessen the intensity, while lessened elasticity of the segments without incompetency may also lessen the accentuation of the mitral sound. The sound is also diminished in varying degrees up to the point of total abolition by incompetency of the valve, and in this connection it is well to consider how far the presence in varying degrees, or the absence of the sound, may aid us in prognosis. I do not regard any feature of the mitral regurgitant murmur, considered in itself, as reliable in determining the degree of incompetency, for it is produced by eddies in the auricle, and manifestly the configuration, elasticity, etc., at the auriculo-ventricular orifice will determine largely the character of the murmur without revealing the degree of incompetency, while in fact the conditions whereby the murmur is produced can not be formulated except in general terms. While, therefore, the presence in some degree of the mitral sound in conjunction with a mitral regurgitant murmur cannot with certainty be assumed as a basis for a favorable prognosis, still I believe it to be a valuable and favorable sign, and I am inclined to give encouragement accordingly.

On the other hand, if the valvular sound be entirely eliminated, the unfavorable progress of the case will presumably be more rapid, though even in this condition there is probably a conservative provision, as has been noted particularly by Bramwell. It is probable that the cardiac systole begins in the auricles and is propagated by continuity to and through the ventricles, until the complete ventricular systole is established. Now, where the tissues immediately at the auriculo-ventricular ring are elastic, the force of this wave of contraction will serve to diminish this aperture before the ventricular systole is fully established, and in-so-far as the orifice is thus diminished is the regurgitation lessened, and under favorable circumstances this doubtless will happily influence the progress of the case for a long period of time, till, finally, dilatation occurs to a degree to nullify the effect of this conservative process, and the regurgitation becomes excessive with the secondary troubles connected with the lungs, the right cavities of the heart, and the systemic venous circulation.

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On the other hand, if the valvular sound be entirely eliminated, the unfavorable progress of the case will presumably be more rapid, though even in this condition there is probably a conservative provision, as has been noted particularly by Bramwell. It is probable that the cardiac systole begins in the auricles and is propagated by continuity to and through the ventricles, until the complete ventricular systole is established. Now, where the tissues immediately at the auriculo-ventricular ring are elastic, the force of this wave of contraction will serve to diminish this aperture before the ventricular systole is fully established, and in-so-far as the orifice is thus diminished is the regurgitation lessened, and under favorable circumstances this doubtless will happily influence the progress of the case for a long period of time, till, finally, dilatation occurs to a degree to nullify the effect of this conservative process, and the regurgitation becomes excessive with the secondary troubles connected with the lungs, the right cavities of the heart, and the systemic venous circulation.

Incidentally, as to the mitral regurgitant murmur itself, I believe if the heart is contracting with even moderate vigor, it should be heard on the back, to the left of the 7th and 8th dorsal vertebræ, or near the lower angle of the left scapula, and whatever the murmur on the anterior portion of the thorax might indicate, I would hesitate to form a diagnosis of mitral insufficiency without this dorsal murmur, unless the case were one in which I could fairly assume a diminution or suppression of the mitral sound, in which case I should have no hesitation in forming the opinion that the valve had become incompetent.

Following the order indicated for the physical examination, we will consider the changes in the pulmonary sound, which is found somewhat less intense than the aortic sound in the normal heart, though at times it may equal though rarely surpasses in intensity the latter sound, except in cases of disease. It is well to remember that the relative intensity of the sounds is best studied on the healthy chest, and the auscultator soon comes unconsciously to recognize pathological variations. The pulmonary sound is increased when there is an increase in the blood-pressure in the pulmonary artery, and this may be due to obstruction in the pulmonary circulation, or increased vigor of the right ventricle. That the conditions which cause obstruction in the pulmonary circulation shall be operative to produce an increased intensity in the pulmonic sound, it is necessary that the semilunar cusps be competent, and that the right ventricle shall not be dilated to a point where the tricuspid is incompetent, or the power of the right ventricle materially lessened; otherwise the influence of the pulmonary obstruction would be nullified by the diminished *vis a tergo.* Mitral lesions, both obstructive and regurgitant, are common causes of an increase in the pulmonary sound. The same may be said of pulmonary emphysema—phthisis (particularly the fibroid variety) and hydrothorax. When true hypertrophy of the right ventricle is present, it is usually associated with obstruction in the pulmonary circulation, and a double cause exists for accentuation in the pulmonary sound. Whatever diminishes the force with which the blood is delivered by the right ventricle into the pulmonary artery will act as a cause to diminish the pulmonary sound, and in this category are to be placed dilatation of the right ventricle, incompetency of the tricuspid valve, obstruction at the pulmonary orifice, and degeneration of the cardiac muscle.

If the blood-pressure in the aorta be above the normal degree, the aortic sound will be increased in intensity. The increased pressure may manifestly be due to a powerful left ventrical, notably when the hypertrophy has resulted from obstruction near the aortic orifice without valvular incompetency, as in atheroma or aneurism of the aorta. It is now several years since Dr. George Johnson, and afterward Sir W. Gull and Dr. Sutton, called attention to hypertrophy of the left ventricle in connection with fibroid changes in the coats of the arterioles, and in that connection it has been customary, and I believe properly, to expect to find increased intensity of the aortic sound. Some have doubted and denied the general association of this sign and condition, but I believe it occurs with general uniformity, though of course conditions may obtain which prevent its manifestation. The disagreement arises, it seems to me, from a failure to recognize modifying conditions as well as the difficulty in establishing a standard of comparison, by which to estimate increased or diminished intensity of any cardiac sound. The due appreciation of the cardiac sounds is the result of clinical observation to be acquired by practice, and not in the lecture room or library, and like the sense of fluctuation, which, though present in a slight degree, is still appreciable to the expert in palpation. Of course if the auscultator be familiar with the cardiac sounds of the individual examined, when in health, he has a point of advantage in concluding concerning the question of increase or diminution, but whoever has been accustomed to the differential study of the valve sounds will come to recognize an intensity proper for the individual examined, and will interpret the sounds accordingly. In connection with the comparative observation of the sounds, I will suggest that the aortic and pulmonary sounds may both be increased at the same time, as in cases of the fibroid kidney in which the pulmonary circulation may be disturbed more or less constantly, with the result of increasing the intensity of the pulmonic sound. Of this fact I have had clinical evidence, and whoever has witnessed an instance of pulmonary œdema occurring in connection with Bright's Disease can readily accept the fact that the pulmonary circulation may be obstructed in that malady. I expect to find an increase of the aortic sound in cases of fibroid kidney, and when I fail to do so I have been able to account for it through some attendant local or general condition.

The aortic sound will be diminished by feebleness or dilatation of the left ventricle, while, if the mitral or aortic valves be incompetent, the sound will be diminished or abolished even though hypertrophy of the left ventricle be present. If the aortic valves be incompetent the reason for the diminution is apparent; while, when the same condition exists with the mitral valve, it results in a lessened delivery of blood into the aorta, and, therefore, a lessened arterial tension.

In relation to the tricuspid sound, it will suffice to say that it is increased in hypertrophy of the right ventricle, differing, therefore, somewhat from the mitral, and that it is enfeebled by incompetency of the valve itself, and by whatever lessens the power or efficiency of the ventricular systole, as fatty degeneration, overfilling, or thrombosis. An accentuation of this sound is doubtless a valuable sign in stenosis of the pulmonary orifice up to the point where dilatation renders the valve incompetent.

A consideration of all the murmurs is too large a subject to add to my already somewhat broad boundaries. But there are two other points which I will briefly consider.

So far I have not been able to satisfy myself that any clinical advantage resulted from the division of the mitral direct murmur into the presystolic and diastolic varieties, though I know that the division is possible, particularly as in cases where the murmur is due to obstruction at the mitral orifice the period of diastole is usually sufficiently prolonged to enable the auscultator to recognize the distinction in point of time, but having found a diastolic murmur with the point of maximum intensity at or near the apex, with no evidence of aortic or pulmonary incompetency, there can be no doubt as to the presence of obstruction to the normal passage of the blood from the left auricle to the ventricle, and questions of shades as to the period of time which the murmur covers seem to me of minor importance.

The strangest theory which I have recently met in connection with the diastolic murmurs is that of Constantine Paul, who, in a recent treatise on diseases of the heart, affirms that no mitral direct murmur ever occurs, and that when a diastolic murmur is present and not attributable to an aortic or pulmonary lesion, it is a continuation of a mitral regurgitant murmur—an echo, as it were, of a reflux current. I confess I am at a loss to understand how such a conclusion can be reached in the face of the accumulated observations bearing on the subject.

A few words in relation to the mitral non-regurgitant murmurs otherwise known as the intra-ventricular, the functional, the inorganic, or the hæmic murmur. My professional pupillage led me to accept this murmur as the product of a changed constitution of the blood, and its usual presence in cases of anæmia and its general association with the venous hum in the veins of the neck seems to justify the explanation that the altered constitution of the blood was the direct cause of the murmur; but, finding that it was not constant in cases of anæmia, I came to investigate the subject more closely, and my conclusion was in opposition to any direct influence of the blood elements in its production.

Not only did some cases of anæmia fail to furnish the murmur, but I occasionally would find a case in which the murmur was well developed, and yet during the same consultation a re-examination of the heart would fail to detect it, a fact not to be explained by any sudden change in the composition of the blood. On the other hand, it was occasionally present when none of the ordinary signs of anæmia existed.

The venous hum has been repeatedly cited as *the* evidence of a hæmic murmur; but I would call attention to the fact that it is yet to be heard in an undistorted vein, while its intensity is increased or diminished as the distortion of the vein by stethoscopic pressure is increased or diminished, provided, of course, that the pressure be not carried so far as to nearly or quite occlude the vessel. The fact that this murmur is propagated into the aorta when that vessel is not grossly diseased is not conclusive evidence to me of its "hæmic" origin, for it is equally natural to suppose that in anæmia or other conditions disturbing the equilibrium of the bodily functions the vascular coats are not in a state of normal tonicity and that vibrations of an abnormal or irregular character might therfore occur, changing sufficiently the normal sound so that it would be entitled to be called a murmur.

I regard the "hæmic" murmur as dynamic in its production, and not dependent upon any quality of the blood except so far as defective blood may influence the functional action of the heart or vessels, and thus produce an unusual in place of the usual vibration.

I believe that this view of the method of the production of the murmur is now so common as to remove it from the domain of novelty, but at the meeting of the First District Branch Association last year, the subject having incidentally arisen, I found myself the only advocate of its exclusively dynamic origin.

Dr. Flint, in an article on the mitral cardiac murmurs, in the number of the *American Journal of the Medical Sciences* for January of this year, gives an account of a case reported by Dr. E. G. Janeway, in which there was a persistent mitral non-regurgitant murmur. And at the autopsy the only variation from the normal condition found in the heart was a tendinous chord attached to opposing points on the walls of the left ventricle, thus subtending the cavity of the ventricle, and being probably forced into vibration during the systole. Facts of this kind go a long way towards settling the question, and though it is probable that various causes may be operative in producing the "inorganic" murmur, yet it seems probable to me that the main agency lies in the disturbed tone of the papillary muscles and the consequent irregular tension and vibration of the chordæ tendineæ in cases of anæmia or other conditions disturbing the nervous or muscular elements of the heart.

ARTICLE III.

HYSTERIA, ITS CLINICAL PHENOMENA AND TREATMENT. By J. LEONARD CORNING, M. D., New York, Consultant in Nervous Diseases to St. Francis Hospital, Jersey City, etc.

So heterogeneous and multitudinous are the symptoms of the disease known as hysteria that an exact description of the affection is exceedingly difficult and an adequate definition little short of impossible.

We can be certain, however, that a large proportion of the manifestations of the affection are directly attributable to a functional derangement of the brain and spinal cord, while not a few of the phenomena are probably traceable to a morbid condition of the sympathetic and peripheral nervous system.

It is impossible, moreover, to regard hysterical phenomena as the result of other than purely functional disturbances of the nervous system, since pathological anatomy has failed to afford other than purely negative data. Nor is it probable that much enlightenment as to the ultimate morphology of the disease is to be anticipated from purely patho-anatomical sources. On the contrary, if we are ever to be informed as to the nature of the occult pathology involved, it is undoubtedly to a future pathological chemistry that we are to look for such knowledge. When, too, the present incompleteness of *physiological* chemistry is borne in mind, there is evidently no immediate prospect of enlightenment from that source, were our metaphysical endeavors ever so great. It cannot, therefore, be said that the probabilities of early enlightenment upon the subtle pathological changes which lie at the root of hysterical phenomena are considerable.

Whatever the ultimate nature of these changes may be, we may, nevertheless, rest assured that they must be wide-spread in character, since only on the basis of such an assumption is it possible to account for the heterogeneous array of symptoms.

For the present, then, hysteria may be regarded as a general neurosis of the nervous system, characterized by physical, motor, sensory, secretory, vasomotor, and reflex derangement. The justification for including symptoms of so heterogeneous a nature under one common designation has been questioned. But, on the other hand, it has been urged that all these symptoms, though not always, are frequently associated in one and the same individual, so that the assumption that they are all attributable to one general cause seems in a measure justifiable.

Be the merits in the case what they may, we shall, at all events, adhere to current usage, if for no other reason than to avoid uncertain and profitless discussion.

Dismissing this portion of the subject, we will content ourselves with but one more observation, before proceeding to give a comprehensive description of the affection. Owing to the circumstance that hysteria is found to prevail to a greater extent among women than men, and also to the fact that changes in the condition of the female genital organs exert an undoubted influence upon the development of hysterical phenomena, it has been assumed that hysteria is an affection exclusively confined to females. Moreover, the same line of reasoning has led to the assumption that hysteria is invariably the result of a diseased condition of the genital organs.

The integrity of the first portion of this proposition simply depends upon the breadth of significance which we give to the term hysteria. Most certainly a lachrymose condition, accompanied by laughter and choking, is found in men, as I have already had occasion to show in former communications.* But whether the more serious manifestations of the affection are found in the male sex has been questioned.

On the other hand, the second portion of the proposition—that which assumes that hysteria is invariably the result of uterine or ovarian disease—may be dismissed without further comment as manifestly opposed to a vast sum of clinical evidence.

Symptoms.—The disease usually develops gradually, though in certain cases there is apparently a sudden exacerbation of symptoms, doubtless attributable to the fact that the prodromata had been overlooked. In another

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*Brain Exhaustion. By J. Leonard Corning, M. D., New York, D. Appleton & Co., 1884. p. 116, *et seq.*

category of cases, however, the onset of the disease is evidently sudden, the attack coming on in the course of a few days in persons previously healthy. Thusit sometimes develops after sudden fright and grief, or after acute diseases or severe hemorrhage. Cases of this kind must, however, be regarded as constituting rather the exception than the rule; but they are not the less worthy of attention, since a knowledge of the possibility of their occurrence will serve to prevent many an error in diagnosis. This form of onset is frequently characterized by the occurrence of one of those paroxysmal seizures so peculiar to hysteria. We shall take occasion to refer at length to these convulsive phenomena, in connection with the discussion of the motor manifestations of the disease. For the present we will content ourselves with observing that, although we shall adhere as much as possible to a systematic discussion in the following discription, no corresponding chronological order is really found in the disease itself. Indeed, there is no affection in the whole range of medicine the symptoms of which are subject to greater variations than those of hysteria. As a consequence, the order of discussion adopted in any description is purely a matter of convenience, and is utterly devoid of objective significance, as far as the disease itself is concerned. Since mental disturbances are usually among the earliest and most characteristic manifestations of the disease, it will be well to take up their consideration first, though this is not the method usually adopted in the books.

Psychical manifestations.—A certain mental exaltation, accompanied by extreme irritability, is the most obvious psychical symptom. The inhibitory power of the intellect over the emotions seems suppressed; the subject yields herself with apparent indifference to sentiments of the most opposite character; joy succeeds sorrow, as evinced by alternate attacks of laughter and crying; there is an apparent complete paralysis of volition.

As a direct result of these chaotic and ebullient emotions, the patient becomes exhausted and peevish. She is excited and moved to immoderate annoyance by the veriest trifles; or perchance an exactly opposite condition of things is engendered, and she signifies approval in terms so extravagant as to cause amusement and astonishment in those about her. By degrees, however, the susceptibility to pleasant emotions diminishes, as the exhaustion consequent upon the inordinate psychical output becomes greater and greater. And, as a final result, disagreeable emotions become preponderant. At the same time a chronic tendency to introspection becomes established, a condition which culminates in one of the most disagreeable and at the same time characteristic manifestations of hysteria, a *morbid craving for sympathy*. The subject becomes completely absorbed in what she considers her deplorable condition, and thinks and talks of her ailments without ceasing. As, by degrees, her friends become accustomed to these lamentations, and, ascribing them to imaginary causes, fail to render the customary sympathy, she becomes desperate. Her inordinate egotism is offended; to her distorted vision there is but one commanding personage in the universe—herself—in comparison with whom the

rest of mankind are as nothing. But, like many a royal egotist, while heartily despising the ways of the plebeian portion of humanity, she is eminently anxious to obtain its plaudits and servility. How to obtain an endless sympathy from obdurate mankind, without the slightest return in kind, is the great question to the hysterical, the cord from which all their present and future hopes hang suspended. In order to obtain the coveted boon, the whole moral nature is trampled under foot; prevarication, false witness, theft, and even murders, are the means to which resort is had, when the milder expedients of constant lamentations and weeping have failed to keep the sympathy of family and friends up to the desired standard. These crimes of the hysterical, committed apparently, in many cases, without the slighest tangible reason, form one of the most extraordinary chapters in the whole range of criminal jurisprudence.

The following history, furnished by Cullingworth,* is an illustration of a case of this kind:

"In December, 1876, a girl of eighteen was found one evening standing, with her clothing wet and muddy, and in an apparently stupefied condition, in the closed doorway of a restaurant in the centre of Manchester, a few yards from where she was lodging. She was taken home and to bed, and a medical man was sent for. He found her to all appearance unconscious of what was going on around her, and uttering some disjointed and incoherent complaints of having been drugged and threatened. He thought she was recovering from the effects of some narcotic, and did not at first pay much attention to her story. The following day, however, she appeared worse, and in the evening her condition was considered so critical that the police were communicated with, with a view to her statement being taken down. She was visited by two experienced detectives, who, seeing how matters stood, and having the doctor's assurance that she was in a dying state, sent at once for a magistrate, before whom she made a solemn declaration to the following effect: she believed herself to be dying. On the previous evening a solicitor, at whose office she had called on business, told her that she must go into a convent, and gave her some sort of dark, sweet drink, which rendered her senseless. On going down stairs from the office, she met a Jesuit Father, whom she had seen once before. This gentleman took hold of her and pulled her along the street to a little house in a court, where there was an upper room with a bed in it, and a cross on the wall. Having got her into this room, he said improper things to her, and gave her a little cake, which affected her directly. The woman of the house came into the room and found her on the floor, after which she somehow got outside; the priest, following her, again dragged her along in the dirt to the street corner, when he ran away."

"The solicitor and the priest, both of them well known and highly respected, were thereupon placed under arrest in the middle of the night, on the charge of having administered certain poisonous drugs with intent to murder. The story was proved to be purely imaginary, and the magistrate dismissed the case."

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rest of mankind are as nothing. But, like many a royal egotist, while heartily despising the ways of the plebeian portion of humanity, she is eminently anxious to obtain its plaudits and servility. How to obtain an endless sympathy from obdurate mankind, without the slightest return in kind, is the great question to the hysterical, the cord from which all their present and future hopes hang suspended. In order to obtain the coveted boon, the whole moral nature is trampled under foot; prevarication, false witness, theft, and even murders, are the means to which resort is had, when the milder expedients of constant lamentations and weeping have failed to keep the sympathy of family and friends up to the desired standard. These crimes of the hysterical, committed apparently, in many cases, without the slighest tangible reason, form one of the most extraordinary chapters in the whole range of criminal jurisprudence.

The following history, furnished by Cullingworth,* is an illustration of a case of this kind:

"In December, 1876, a girl of eighteen was found one evening standing, with her clothing wet and muddy, and in an apparently stupefied condition, in the closed doorway of a restaurant in the centre of Manchester, a few yards from where she was lodging. She was taken home and to bed, and a medical man was sent for. He found her to all appearance unconscious of what was going on around her, and uttering some disjointed and incoherent complaints of having been drugged and threatened. He thought she was recovering from the effects of some narcotic, and did not at first pay much attention to her story. The following day, however, she appeared worse, and in the evening her condition was considered so critical that the police were communicated with, with a view to her statement being taken down. She was visited by two experienced detectives, who, seeing how matters stood, and having the doctor's assurance that she was in a dying state, sent at once for a magistrate, before whom she made a solemn declaration to the following effect: she believed herself to be dying. On the previous evening a solicitor, at whose office she had called on business, told her that she must go into a convent, and gave her some sort of dark, sweet drink, which rendered her senseless. On going down stairs from the office, she met a Jesuit Father, whom she had seen once before. This gentleman took hold of her and pulled her along the street to a little house in a court, where there was an upper room with a bed in it, and a cross on the wall. Having got her into this room, he said improper things to her, and gave her a little cake, which affected her directly. The woman of the house came into the room and found her on the floor, after which she somehow got outside; the priest, following her, again dragged her along in the dirt to the street corner, when he ran away."

"The solicitor and the priest, both of them well known and highly respected, were thereupon placed under arrest in the middle of the night, on the charge of having administered certain poisonous drugs with intent to murder. The story was proved to be purely imaginary, and the magistrate dismissed the case."

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*Cited by Ross, op. cit., p. 855.

Self-mutilation is sometimes practised by hysterical patients in order to obtain sympathy. The following is a case in point, which was reported some years since by Dr. Channing:*

"Mrs. Miller was first seen by us in 1875, a month after admittance to the asylum. She was an intelligent German Jewess, rather below the medium size, thirty years of age, hair and complexion light. She was then thin in flesh, pulse weak, hands red and cold, lips bluish, tongue pale and tremulous when extended; but few of her teeth remained, and her face had a pinched look; her smile was very pleasant, but her expression at other times was suspicious and irritable."

"She was in bed suffering from what seemed to be a severe attack of hæmatemesis; various remedies were applied, but the hemorrhage continued several days unabated. Her bodily condition continuing, however, perfectly good, notwithstanding the blood lost, stimulation was suspected; treatment was suspended, and the bleeding ceased. The coffee-ground appearance of ejected matter she had imitated by vomiting food into her chamber-vessel and covering it with blood (pricked and sucked from her gums) and urine. This attack was followed by others of hysterical dysmenorrhœa and dysentery. Toward the end of the month she became much depressed * * * On the 25th of the month, in a paroxysm of despair, she broke twenty-three panes of glass; with a small piece of glass she cut her left wrist, and, inserting it into the wound, endeavored to reach the arteries * * * She was much agitated, trembling from head to foot, and crying, but however said nothing. The next day she was very repentant for what she had done, and said that she would never to do it again; but in about three weeks she again became "discouraged," to use her own words, or depressed, irritable, and suspicious, and, being enraged because she was refused opium, cut her arms to avenge her wrongs. The wounds were immediately below the elbow, on the inner surface of the forearm, where the flexors are thickest. One cut was six inches in length, the other four. * * * She was crying, and endeavored to conceal the cuts when seen, and would say nothing as to the situation or number of pieces of glass she was said to have thrust into the wounds." On examination under ether, several pieces of glass were found in the wound and removed. Subsequently, she wounded herself in like manner several times, with the result of finally setting up an erysipelatous inflammation, which, in its turn, was followed by œdema glottidis; suffocation appearing imminent, tracheotomy was performed; on the eleventh day the tube was removed, and the wound healed in three weeks after the operation.

For some time subsequently she appeared to improve; but after a time the mutilations were begun afresh and continued more or less frequently until June, 1877, when she cut herself for the last time, and soon afterwards "broke her chamber-vessel to pieces on the wall over her head."

"The following is a list of articles which have been removed from her arms and saved: ninety-four pieces of glass, thirty-four splinters, two tacks, four shoe nails, one pin, one needle. Several pieces of glass, and the pins and needles first removed, were unfortunately mislaid and lost. Including these, the whole number of objects removed amounted to one hundred and fifty. * * * The longest splinter was nearly six inches long." * * *

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* *American Journal of Insanity*, January, 1878, p. 368.

"Strange as it seems, she apparently experienced acute erotic pleasure from the probings which she was subjected to." * * * "She has been very hysterical, having frequent attacks of choking, globus hystericus, and imagined at one time that she had a spool in her throat, and could only swallow through the hole in the middle."

This case is certainly unique, as regards the character and extent of self-mutilation practised.

Dr Channing also cites the case reported by Dr. Robie,[*] of the Dundee Asylum, in which an hysterical woman swallowed a circular tea-caddy, one and one-fourth inches in diameter, with suicidal intent.

Dr. J. B. Andrews, of the Utica Asylum, has reported a most interesting case, in which he removed three hundred needles from the body of a female patient. The needles had all been inserted before she became a patient in the asylum. The patient was hysterical, and bore a strong resemblance, in some respects, to the case of Mrs. Miller.[†]

Soon after the introduction of anæsthetics, an unusual form of accusation made its appearance in court. These accusations were based upon the allegations of certain women, to the effect that they had been outraged while under the influence of an anæsthetic, in the office of a physician or dentist. Medico-legal literature abounds in cases of this character.[‡] When these peculiar charges were first made in court there can be little doubt that gross injustice was frequently done, as both judge and jury were but too liable to lend undue credence to the women declaring themselves aggrieved. In a short time it became evident to court and jurors alike that the women who made these accusations had either labored under some unusual mental aberration, incident to the inhalation of the anæsthetic, or were the victims of some form of neurosis. It was natural, under these circumstances, that the thoughts of medical witnesses should revert to hysteria; and accordingly, at the present day, the connection of this insidious affection with many cases of this kind has been clearly made out.

The following are evidently cases in point: "In 1854 a clergyman's sister came to my office for the purpose of taking ether and having a tooth extracted, and brought her brother's wife with her. I began to administer the ether to the patient, and whilst renewing it she got away from me, and seemed alarmed and offended. I did not attempt to compel her to breathe any more ether, but urged her to take it, and so also did her brother's wife; but she would take no more; she had the impression, so her brother told me, that I attempted to violate her, and that his wife assisted me. It was a long time afterward before she would fully give up that she was mistaken in the matter."*

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[*] *Journal of Mental Science*, for July, 1875.

[†] *Journal of Insanity*, for July, 1872; quoted by Channing.

[‡] Vide "Medical Jurisprudence" of Wharton and Stillé.

"Artificial Anæsthesia and Anæsthetics," by Henry M. Lyman, A. M., M.D. etc. New York: William Wood & Co., 1881. Also

"A Manual of Medical Jurisprudence," by Allan McLane Hamilton, M. D., Birmingham & Co., New York. 1883.

The following case is quoted by Lyman:† "A case of the utmost importance to the whole profession, not in Great Britain only, but everywhere, was tried before Mr. Justice Hawkins, at the assizes at Northampton, on the 9th of November. It was a charge against a surgeon's assistant of criminal assult—of rape upon a patient when under the influence of chloroform. If there is a dastardly crime, it is to take advantage of a woman's helpless unconsciousness to violate her person. And so the magistrate thought, who sent the accused to jail on the 14th of September, declining to hear anything in his favor, and resolutely refusing to accept bail. The charge was that a married woman, named Child, went to the surgery of her family medical attendant to have her teeth operated upon. She had been there a day or two before, but the attempt to put her under chloroform had failed. A second attempt was rather more successful. She evidently had some peculiar idiosyncrasies in relation to chloroform, for he gave it for an hour, and yet she was never sufficiently under its influence to admit of the operation being performed. She was accompanied by a friend—a Miss Fellows. At the end of an hour Miss Fellows went out of the room and saw Mr. Child. In a quarter of an hour Miss Fellows returned. The prosecutor maintained that on Miss Fellows' return she was quite conscious, but unable to speak, Finding it impossible to perform the operation, the accused accompanied the prosecutrix and her friend home. So far Mrs. Child had been unable to speak. but shortly after the accused left the house she complained to her husband that he had taken advantage of the absence of Miss Fellows to assault her criminally. Next day, when the accused called, he was told about what she had said, and he replied that she was laboring under a delusion. Under cross-examination, Mrs. Child said that she told the accused that if he would admit the offence and quit the town (Birmingham) she would forgive him. This the accused declined to do, denying that he had committed any offence. He was then given in custody. The prosecutrix stated that the offence was perpetrated immediately after Miss Fellows left the room, that the prisoner went upon his knees and then assaulted her. Miss Fellows stated that on her return she found Mrs. Child in precisely the same position in the chair which she occupied when she went out of the room. Such were the facts of the case. * * * In the mean time the unfortunate surgeon's assistant was sent to prison.

" When the case came to be tried, a large number of medical men of repute came forward voluntarily to aid the accused's defence, and did this quite gratuitously."‡

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* Dr. N. L. Folsom, in the *Med. and Surg. Reporter* for January 12, 1877. Quoted by Dr. Lyman, op. cit., p., 95.

† Contained in the Philadelphia *Medical Times* for December 22, 1877.

‡Among these witnesses, was the celebrated Dr. B. W. Richardson, to whose testimony the subsequent acquittal of the accused was in great measure attributable.

A number of cases were related by medical witnesses, in which females, undergoing operations at the hands of dentists and surgeons, had alleged that they had been criminally assaulted, persisting in this belief in some cases for years afterwards.

Finally, the judge demanded of the jury whether it was necessary to sum up, and they replied it was unnecessary; they were already agreed upon a verdict of acquittal. "Mr. Justice Hawkins pointed out that such a verdict would not be the slightest imputation upon the absolute sincerity of the prosecutrix, who, no doubt, firmly believed every word of what she had said. He then congratulated the accused upon having had an opportunity of fully vindicating himself upon the charge preferred, and said that the verdict of acquittal did not mean that there was insufficient evidence, but that the accused was entirely cleared of any imputation in respect to the charge preferred against him. * * * The accused was then discharged from custody, having been in prison two months for no offense."

It is a common belief among certain persons that the mental phenomena recorded above are due to certain extraordinary effects of the anæsthetic. But it is a noteworthy circumstance that such cases are usually observed among neurotic, hysterical females, or among those in whom there is a strong erotic tendency. A certain constitutional predisposition seems, therefore, a pre-requisite in all such cases. There can be little doubt that such an hysterical predisposition was present in the foregoing case, though the clinical history is somewhat incomplete on this point.

When such instances occur, diligent inquiry should always be made regarding the family history. The discovery of the existence of consanguineous insanity, or the affirmation of witnesses that the prosecutrix is of a "nervous," hysterical disposition, should be accepted, in the absence of other more positive testimony, as proof positive of the innocence of the accused. In our estimation the verdict rendered in the case above cited was most just and in entire harmony with the most enlightened scientific opinion.

Fictitious attempts at suicide are a favorite means of attaining sympathy among hysterical women. An instance of this kind came under my immediate notice but a few weeks since. The history in brief was as follows:

Mrs. C., a young woman of apparently robust constitution, had been married but two years, when she became feverish and restless, complaining that, ever since the birth of her child, she "had not been the same woman." She also developed the idea that her husband was faithless in his marital relations, although the latter gave constant and convincing proof of his affection. Her constant complaining, and alternate weeping and laughter, caused such pain and annoyance to those about her that the family physician was consulted on several occasions with regard to her condition. On hearing that her medical adviser had expressed the opinion that she was a sufferer from hysteria, and that her sufferings were purely the product of the imagination, she became very angry, and declared that she was the victim of a "plot." Soon afterwards, while the family were sitting at table, she suddenly appeared in the room, and declared that she had taken poison, exhibiting, in corroboration of her assertion, a vessel containing a quantity of finely powdered glass. During the scene of consternation which succeeded this tragic announcement, she preserved an imperturbable exterior, and seemed rather gratified than otherwise at the sorrow depicted upon the countenances of those about her. When, however, the hastily summoned medical attendant proposed the administration of an emetic, and at the same time made preparations to introduce the tube of a stomach pump, she protested vigorously, by word and action, biting and scratching those who attempted to restrain her. Finding, however, that her strength was failing, and that she was about to be overpowered, she confessed that she had not yet swallowed the broken glass, but was about to do so in the presence of the family, in order that her loss might be the more "appreciated."

Such cases are common enough in practice, and when the previous history of the patient is accessible, they need cause but slight embarrassment.

It would be possible to multiply histories of like character, growing out of a morbid desire for notoriety and sympathy, almost *ad infinitum*. Medical and legal literature abounds in cases of this kind. Without pursuing the subject further, however, we will content ourselves with stating that such instances are by no means confined to the female sex, but are found to prevail among men, though to a less extent than among women.

Besides the more pronounced mental phenomena exhibited by hysterical persons, which the foregoing description and cases have served to display, individuals of this class are subject to various other forms of psychical disturbance.

One of the most distressing mental symptoms found in the hysterical consists in a persistent morbid impulse to commit some act of violence. The objects of such morbid impulses are usually found among the immediate friends or family connections of the patient. Thus I was consulted recently by a German as to the mental condition of his wife, who had caused great uneasiness by announcing that she was afraid to remain alone with her children, as she had an uncontrollable impulse to "throw them out the window." She also begged her husband to remove a revolver, which he was in the habit of placing under his pillow at night, as she declared that she felt an almost resistless impulse to take the weapon and "shoot him in his sleep." Her general mental condition was described as "nervous," by which was meant that she was fretful, feverish, and lachrymose. In appearance she is stout and healthy, and the only obvious derangement in bodily function is an occasional attack of dysmenorrhœa.

This morbid explosiveness, this tendency to commit acts of violence, frequently finds expression in the destruction of inanimate objects. This form of mental disturbance is prevalent among young girls of hysterical tendencies. Instead of the irritable and explosive tendencies finding vent in violent conduct toward individuals, the destructive impulses are directed towards the inanimate environment. The bed-clothes are torn into shreds; tapestries are pulled down; the clothing is thrown about, and the furniture broken in pieces. Sometimes the house is set on fire, and the most incredible intrigues concocted against friends and acquaintances. In many instances, as we have seen, the subject seeks to gain sympathy and notoriety by her extraordinary conduct; and to attain this end she does not hesitate to lie, defame at, or even commit murder. On the other hand, in not a few cases, it is utterly impossible to ascertain the slightest motive for the commission of the various heinous crimes of which the hysterical are guilty. Sometimes the duplicity of hysterical women is so profound as to baffle the efforts of the most expert medical witnesses. As a consequence, the ends of justice are frequently perverted, and on more than one occasion perfectly innocent persons have suffered at the hands of the law for crimes which have subsequently been shown to be the acts of hysterical females. From what has been said, it is evident that the medico-legal relations of hysteria are of the utmost interest and importance. Were this the proper occasion an entire chapter could well be devoted to this branch of the subject; but as such a digression would evidently transcend the scope of the present work we must content ourselves with referring to the excellent book of Legrand du Saulle*, and the more recent work of Dr. Allan McLane Hamilton†, which certainly constitutes a most valuable contribution to legal medicine.

Hysteria is frequently complicated with mental disturbances of such profundity as to constitute a veritable "insanity." By this we mean that the psychical disturbances attain the gravity of mania or melancholia, with sexual or uterine symptoms, feigned bodily affections and other deceptions, practiced with a view to obtain sympathy; and a morbid irascibility and erotomany. The erotic tendencies may be concealed at first; but careful interrogation and observation almost invariably end in their discovery.

The threats and abortive attempts at suicide resorted to by the patient have usually little significance, and rarely result in grave consequences. Hysterical convulsions and retention of urine, of which we shall take occasion to speak later, are sometimes present.

Sometimes the diagnosis of this form of mental derangement presents peculiar difficulties, and there is great liability of confounding it with masturbational and "adolescent" insanity. The most we can do when doubts of this character arise is to postpone a definite verdict until all the facts in the case are thoroughly known. We should, moreover, guard against pronouncing a case one of hysterical insanity until we have become thoroughly convinced that the hysterical symptoms constitute its most prominent feature.

Of hysterical insanity Clauston observes: "The fasting girls, the girls with stigmata, those who see visions of the Saviour and the saints, and receive special messages in that way, the girls who give birth to mice and frogs, and those who live on lime and hair, are all cases of this disease."*

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*Les Hystériques état physique et état mental, etc., par le Dr Legrand du Saulle, Paris, 1883.

†"AManual of Medical Jurisprudence," with Special Reference to Diseases and Injuries of the Nervous System, by Allan McLane Hamilton, M. D., Birmingham & Co., New York, 1883.

The following case, quoted from Clauston, is a fair illustration of hysterical insanity: "J. U., age 21, of nervous and excitable temperament; habits correct. An aunt epileptic. Had on one occasion at home a mild attack of what must have been sub-acute maniacal excitement. The cause of the present attack, which had lasted for four days, was a fright which first produced ordinary hysterical symptoms, and then maniacal symptoms engrafted on them. She shouted and screamed and spoke of hearing God speaking to her, and would rush to the window to jump out. She imagined she was a most important person, attitudinized, and did everything to attract attention to herself. Attention and sympathy were craved by her, and if she could not get them in one way she tried another. She refused her food, saying it was poisoned, but took it rather than be fed with the stomach pump. She had menorrhagia, and was most minute and circumstantial in the details as to her female health. She was tried with hyoscyamine, valerian, and monobromide of camphor, with apparent benefit; but I consider the greatest improvement was produced in her case by discipline, work, open-air exercise, tonics, and good plain food in abundance. She improved at first, and once or twice relapsed, but in two months she recovered and was discharged. I do not like to keep hysterical cases too long in the asylum after convalescence, as a general rule, for they sometimes get too fond of the place, preferring the dances, amusements, and general liveliness of asylum life, even with its restrictions, to the humdrum and hard work of poor houses."†

The following is an exceedingly characteristic letter of a maniacal hysterical girl, and seems to illustrate in a striking manner the morbid psychology of the subject: ‡

"My Dear Mamma—It is time that I leave to return home. I have been tremendously changed for the better. I think papa will be able to get me a commission under Garibaldi before long. There are three to whom I am especially indebted—one Mr. C., the modeller, the other, the doctor, a eunuch who modelled me at the fire and attended me and bathed me. He is, I am sure, a gentleman, a splendid doctor. Could not papa get him into a regiment abroad? And there is the nurse. Could not papa get him a situation away from Morningside Asylum, where I am at present? I should like papa to come for me as soon as possible. Do you remember the verse, "There are," etc. (12th verse, ix. chapter of Matthew) about eunuchs? Then I beg to inform you that, according to Scripture and my conscience, Jessy, your cook, is a man; and Janet, the mad devil, is a man; and D. and H., boys, who can have children. Aunt I. is a man, and yourself also, both made of men, and I am a boy, made of Dr. C. and Dr. Z. Mrs. T. is a man made of men. They are very ignorant on this subject here; but as for me, it is certain that at least the spirits have showed me, which Christ sent me when I was under drugs; they showed me this. I have at times since I come here passed the shadows of death, and therefore am authorized to speak in opposition to all men and women, gentlemen and ladies, who oppose me. I am, I can swear, as you want to know what sex I belong to, a mixture of a nymph and a half man, half woman and a boy, and a dwarf, and a fairy. I know more than my fellow mortals, have expired eleven times before the time.—I am, etc."

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*Op. cit., p. 341.

†"Clinical Lectures on Mental Diseases," by T. S. Clauston, M. D, etc., Philadelphia, 1884.

‡Taken from the "Morosonian Lectures," by Drs. Skaal and Clauston, for 1873, *Journal of Natural Science*," vol. xix, p. 500; vide also "Clinical Lectures on Mental Diseases, by T. S. Clauston, Philadelphia, 1884—1885—p. 341.

Sensory Disorders.—Hyperæsthesia is an almost invariable accompaniment of hysteria, and may involve a portion or all of the special senses. Sometimes there is an abnormal increase in the acuteness of the perceptive faculties; so that it is a subject of common remark, even among the laity, that hysterical persons see, hear, smell, and taste with far greater keenness than those in health. Again there may be a certain degree of sensory perversion, manifested by a dislike for certain stimuli which by the healthy are looked upon with indifference or even regarded as pleasurable. Or there may exist a positive liking for sensations which, to the majority of mankind, are regarded with feelings of repugnance.

Coupled with these anomalies of sensation, there exists, in the majority of cases, a corresponding perversion of the higher mental faculties—a veritable "*psychical hyperæsthesia*," as Jolly calls it. We have already discussed the various mental disorders of the affection, which may properly be comprised under this heading, in the previous paragraph, and therefore abstain from further particularization on the present occasion. Coeval with these sensory disturbances, certain anomalies of perception usually appear, which, in the absence of all primary excitement of the peripheral apparatus, cannot be regarded otherwise than as purely subjective. It is thus that the true hallucinations of hysteria originate—phenomena which unquestionably lie at the root of the illusions and delusions of the more serious mental complications of the affection.

Perversion and exaltation of the senses of smell and taste are especially frequent. The subject declares that she detects odors of an agreeable or repugnant nature, which remain imperceptible to those about her; and careful investigation shows that she really is able to discover the presence of astonishingly minute quantities of semi-inert substances. With this unusual power of perception there is often marked sensory perversion, manifested in a strong dislike for certain substances which by healthy persons are considered to possess an agreeable taste or odor. Or the process is reversed, the subject expressing herself as delighted with the odor and taste of the most disgusting substances. Thus a lady afflicted with hysteria confessed to me that the odor of excrement was agreeable to her; while another patient, a young girl, tells me that the odor of eau de cologne excites in her feelings of the liveliest repugnance.

Cases exhibiting a decided increase in the acuteness of the sense of smell are found in the literature of the subject, and are by no means as rare, according to my experience, as some writers appear to imagine. For example, the lady above referred to declared that she was able to detect the presence of her little four year old child by the aid of the sense of smell, when the latter entered unexpectedly a neighboring apartment; and a hysterical boy whom I have recently seen is able (according to his father) to appreciate the presence of a dog or cat, even when the latter are at some distance and totally invisible. Doubtless similar instances will occur to most physicians of extended experience.

When hallucinations of smell and taste exist in complicated cases, they are said to particularly facilitate the establishment of more or less permanent delusions.*

I cannot say that my own experience agrees entirely with the foregoing, since I have found that hallucinations of other senses, particularly those of hearing, are quite as prolific of erroneous ideas as those of smell and taste.

Hyperæsthetic conditions of the organ of *sight* are frequently met with. Sometimes the subject complains that bright light is disagreeable to her, and resort is had to colored spectacles, which may afford apparent relief. In other cases the photophobia is so great that the afflicted women seclude themselves in darkened rooms for days together, refusing food except when brought to them. Sometimes the hyper-sensitiveness is only apparent in connection with certain colors, especially red. Subjective sensations of light, assuming the form of spots, flashes, and sparks are also observed. In some cases, the subjective appearances attain to the dignity of veritable hallucinations, which may be agreeable or repulsive in character. The physiological substratum of the condition known as *ecstacy* is unquestionably to be sought after among these visual hallucinations.

Sometimes the subject recognizes the subjective nature of many of these impressions; but in other cases it is impossible to convince her of the unreality of the phenomena. Under the latter circumstances delusive opinions may arise.

In some cases there is a manifest increase in the acuteness of vision, which is not to be accounted for merely on the score of a prolonged sojourn in a darkened room. The extraordinary narratives of the visual power of hysterical persons, in which the latter are said to read with their backs turned or with closed eyes, are evidently unconscious perversions of the truth or gross deceptions.

The sense of *hearing* is often exaggerated in hysterical persons to such a degree that they readily appreciate sounds which are imperceptible to healthy individuals. So sensitive do they become to sound that such an ordinary occurrence as the squeaking of a door, the rumbling of a cart, or the cry of a child is sufficient to cause the most intense annoyance. Subjective sensations, such as ringing, blowing, roaring, humming, and singing are frequently encountered; and true auditory hallucinations are also encountered. As we have already had occasion to observe, the latter frequently result in establishment of more or less pronounced mental aberration.

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* Vide Jolly on Hysteria, op. cit., p. 497.

In almost all cases of hysteria there is present a *morbid sensibility to pain.* This exalted susceptibility to painful impressions may be confined to the skin or may involve the more deeply seated tissues. It is subject, moreover, to irregular topographical distributions. This is particularly true of cutaneous hyperæsthesia, which, though sometimes general—being distributed over the entire surface of the body—is often confined to certain isolated regions of the integument. Sometimes the skin of one-half of the body, of one or more extremities, or of certain portions of the trunk, is alone affected. In yet other cases hyperæsthesia and anæsthesia are encountered side by side, or at all events isolated anæsthetic islands are found in the midst of more or less extended hyperæsthetic areas. These curious phenomena certainly constitute a most enigmatical chapter in pathology; but it would be a practical waste of time to examine the various more or less ingenious hypotheses which have been advanced with a view to their explanation.

When the cutaneous hyperæsthesia is general, the patient suffers great torture on attempting to execute such simple movements as turning about in a chair or dressing. In the more exquisite case, the mere impact of the bedclothes is sufficient to cause acute pain, and in some instances convulsions.

Besides the hyperæsthetic phenomena above referred to, almost all hysterical individuals complain of pain, which may be diffuse in character or confined to the most diverse localities. Sometimes the pain is felt over the entire extent of the abdomen, and may be associated with tympanites. At others neuralgic pains are present in the mammary glands, the latter being often of such intensity as to render the contact of the clothing or bed-linen absolutely unendurable. The hyperæsthesia is particularly marked during the menstrual period. Cardialgia is another frequent symptom of hysteria, and one which is often associated with more or less persistent vomiting—a combination of symptoms which may give rise to the erroneous preconception that we have to do with perforating ulcer of the stomach. This impression is furthermore enhanced by the fact that hysterical females are often great gourmands, devouring everything set before them with an appetite apparently insatiable. It is evident that such persistent gluttony can only result in an aggravation and perpetuation of these digestive disturbances; indeed, I am not sure but that this overloading of the stomach constitutes the starting point of many of the gastric disorders to which the hysterical are liable.

Hysterical persons are often afflicted with an hyperæsthetic condition of the ovaries, associated, in many instances, with anæsthesia of the same side. At the same time they complain of irritation about the external genital organs, associated with a morbid increase of sexual excitement. This latter condition, which is particularly pronounced at the time of menstruation, may give rise to reflex spasm of the sphincter muscle ("vaginismus")[*]—a state of things peculiarly unfavorable to coitus. Owing to the irritated condition of the urethra and bladder, which is an almost constant concomitant, the desire to urinate is frequent, and the act is rarely accomplished without considerable pain.

Dorsal pain is a more or less frequent accompaniment of hysteria. Sometimes it is situated in isolated spots between or above the scapulæ, at others it is distributed in a more or less continuous band along the course of the vertebral column (*spinal irritation*). In the more exquisite cases the slightest pressure above the vertebræ is sufficient to cause severe pain, while the passage of the wire-brush, with a moderate current, along the spine is sufficient to reveal the presence of hyperæsthetic spots, in the less severe cases. Sensitiveness of the uterus, though not a constant symptom as formerly supposed, it frequently met with; and while doubtless dependent, in some instances, upon uterine disease, must in many other cases be regarded as of purely neurotic origin.

Thus, cases of uterine pain are often met with in those who have been treated for protracted periods for some form of supposed disease affecting the uterus without the slightest beneficial result. But when placed upon the back and treated according to the symptom of spinal rest so ably advocated by Weir Mitchell, they often display astonishing improvement in a short space of time.

Of great theoretic and practical interest are the pains occurring about the joints of hysterical persons—pains which are frequently mistaken for symptoms of true articular disease.

To Sir Benjamin Brodie[†] has been ascribed the credit of having directed the attention of the profession to the frequency of these enigmatical symptoms.

When pressure is exercised upon the joints of those affected by this form of articular neurosis, severe pain is produced. It is evident, however, that this pain is located in the soft tissues about the joint rather than in the latter, since the forcible apposition of the articular surfaces fails to produce the disagreeable symptoms and shock peculiar to true joint-disease. Atrophy of certain muscles has been noted by certain observers,[‡] after the affection had continued for a series of years. It is probable, however, that the attenuation of the muscles is never so great as in organic disease of the joints.

The articulations most frequently involved are the knee and hip joints, but even the smaller joints of the wrists, ankles and, fingers are sometimes affected.

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[*] Vide the writings of Drs. J. Marion Sims and T. Gaillard Thomas; also, Axenfeld et Heuchard. "Traité des névroses," Paris, 1883.

[†] Brodie, Sir Benjamin, "Lectures Illustrative of Certain Local Nervous Affections," London, 1837. Also Esmarch, Ueber "Gelenkneurosen," 1872. Stromeyer, "Erfahrungen ueber Localneurosen," Hanover, 1873. Werner, "Ueber Nervose Coxalgie," *Deutsche Zeitschrift fuer Chirurgie*, Band I. Berger, "Zur Lehre von den Gelenkneuralgien," Berliner *Klinische Wochenscrift*, 1873.

[‡] Vide "Nervous Mimicry of Organic Disease," by Dr. J. Paget. *The Lancet*, vol. II. 1873.

It is evident that an accurate diagnosis in cases of this kind is of the utmost importance, since, if the affection be mistaken for true joint trouble, the patient is liable to all the inconvenience arising from prolonged antiphlogistic and orthopædic treatment. Before delivering a final opinion, therefore, the patient should be subjected to a rigorous physical examination. At the same time the most searching inquiry should be instituted regarding her general physical and mental health, with a view to discovering any indications of hysteria or other neurotic trouble. Not until we have exhausted the last resources of investigation are we justified in forming a definite conclusion as to the nature of the affection.

The following cases reported by Skey* are fair illustrations of these joint affections:

"Annie W——, aged twenty-two, was admitted into Treasurer's Ward in the spring of last year. She had been confined to her bed for twelve months, and was sent up from her parish, near Bedford. During twelve months she had been totally deprived of motor power in the left leg, and during ten months in the left arm. The two extremities lay on the bed perfectly motionless and paralytic. Indeed, her case was reported to me as one of hopeless and incurable palsy. There was something strange in the girl's aspect, and in the total absence of motor power extending to the toes. A truly paralytic limb is rarely so dead as these limbs were; we can often obtain some slight manifestation of volition, even though in the slightest motion of one or more of the toes. In this case there was absolutely none detectable to the eye. I suspected it to be a case of hysteria, and ordered her valerian and ammonia in full doses after the first three days; meat diet and porter. In four days movement on volition was perceptible in all the toes and in the hand. In a fortnight she could move her arm and leg slowly in all directions. In one month she walked on crutches about the ward, and in six weeks she left the hospital convalescent."

The history of the above case is not as complete as might be desired; but the following instance, quoted from the same author, is more to the point:

"Eliza J——, aged twenty-two, was admitted into Treasurer's Ward in April last with an affection of the knee, which incapacitated her for movement of any kind on the affected limb. The joint was scarcely perceptibly swollen, yet she could not bear the most superficial examination by the hand without an expression of pain quite disproportionate to the apparent amount of disease. The temperature of the joint was slightly, but not much, increased. The only explanation obtainable from the girl's statement referred the injury to a fall six weeks prior to her admission, and three weeks before the first appearance and even the suspicion of disease. During the interval of the first three weeks, she "thought the joint felt occasionally more stiff than usual." This girl had a somewhat florid complexion; she had a weak pulse, and, as almost a matter of course, had cold feet and severe headaches. Both sides of the joints bore marks of previous treatment in the form of pretty active scarifications. It appeared that blood had been taken from the joint by cupping on two occasions, to the extent, as nearly as I could learn, of about twelve ounces; and a blister of some magnitude had been applied on its front surface. From these remedies I could not ascertain that any benefit had been derived to the affected knee, and she thought, on the whole, her attacks of headache had been more frequent and severe. Her bowels were habitually constipated. I ordered her the local application, for three or four consecutive nights, of a liniment composed of two drachms of the fluid extract of opium to an ounce of compound soap liniment, and the joint to be rolled with flannel; twice a day a draught of ammonia and valerian; full diet, with a pint of porter daily. The local application was continued, with intervals, for eight or nine days, with much relief, and without return of pain. At the expiration of a fortnight the medicine was changed to eight-grain doses of ferro-citrate of quinine, and she left the hospital in five days convalescent."*

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* "On Hysterical Affections of the Joints," by Frederic C. Skey, F.R.S. *The Lancet*, March 12, 1859.

[To be concluded.]

ARTICLE IV.

President's Address, Delivered at the Second Annual Meeting of the Fifth District Branch of the New York State Medical Association, Held in Brooklyn October 12, 1886. By J. G. Porteous, M. D., Poughkeepsie.

Fellows of the Association, I believe I can honestly congratulate you on the success, not only of this branch, but of the parent Association and the other branches in the State. They have demonstrated the wisdom of the action taken at Albany on that February morning which we all remember so well, a morning having its share of doubts and fears, which have long since been brushed aside by the wisdom and moderation of the brave men who led the new departure and stood firm for the faith. No system of societies has been originated which so thoroughly covers the ground desired, and so firmly unites the members, as this of district branches—not so large as to be unwieldy, but large enough to be interesting, and bring a working body of working men in contact with each other, and draw out their views in a characteristic manner; not so small as to foster the petty personal strife of the old county societies. I saw a statement lately by one of the censors of the Medical Association of Alabama that the county medical societies of that State have a good deal of important work to do, and they do it. Most of the county societies in this State have a great deal of important work to do and do *not* do it. In perhaps a majority the meetings are annual or semi-annual, the attendance small, and the principal business the all-important one of electing officers. For years it has been only a form, and so much had this been felt by the more active members of the profession that in some parts of the State three or more counties would band together and form an independent association, in which very good work was done. I say independent, because the State society would not recognize them. But the district branch associations are still better, better organized, and, with a common head, working more harmoniously and efficiently.

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* Other contributions to the literature of the subject are: "Nervous Mimicry of Organic Diseases," by Sir James Paget, *The Lancet*, Nov. 1, 1873. "Paralysie hysterique, attitude vicieuse, pied bot consécutif," by N. Damaschino, *Gazette des Hopitaux*, 1879, p. 56. "Diseases of the Nervous System," Lecture on, by Francis E. Anstian, M.D., *The Lancet*, 1873, Vol. I., pp. 437.

In this branch, as in others that I have visited, the work has been earnest and conscientious.

The papers read have been of a character to invite discussion, and, while often criticised, always in a kind spirit, however earnest. This matter of discussion I believe to be one of the most important in the Association, a really good paper often bringing out many more important points than even the author himself had ever expected.

Such discussion is of the greatest importance to the large body of general practitioners who compose the main body of the profession, men to whose care the great bulk of the community entrust their many ills; as a rule, a quiet, shrewdly observant, practical class, more willing to be taught than to attempt to teach, men who, while often by circumstances precluded from being original investigators in the broadest sense of the term, are still prompt to avail themselves of the advances made in any department of the profession which they can use for the benefit of their patients, and heartily willing to give full credit to any man who adds a tithe of usefulness to our noble profession. They are not the "bigoted ignorants." Yet they were lately represented to be by a certain Boston specialist. Neither are they men who "wall themselves in," as he spoke of himself as doing. He need not have gone out of his own city to find that one could not wall in a Shattuck, a Bigelow, or a Bowditch, whatever you might do with him. The specialist whose system is not built on a foundation, broad and deep, of a knowledge of general practice is a dangerous man.

The work of the whole Aassociation has been carried on in a most conservative and deliberate manner; even the publication of our transactions has not been in the least degree hurried or premature. The hand of Death has made itself felt in our midst, especially in the removal of our honored president, Desault Guernsey, his lamented friend, Dr. Austin Flint, and our distinguished colleague, Dr. Frank H. Hamilton. I shall not attempt a eulogy, as abler pens than mine have found it hard to do justice to their great and noble characters.

Had these most earnest and energetic of our founders lived, no doubt much would have been added to the useful work of this branch. This consideration brings us face to face with the fact that we should enlist the young men of the profession in our cause, and teach them that there is something greater and more noble to be sought in our glorious profession than the mere consideration of dollars and cents. Many of us are already feeling the weight of advancing years, and would like, for the benefit of humanity, that good and true men should be coming forward to take our places.

I do not intend to tire you or make many suggestions, but there is one question which has a certain amount of interest for many of our members, and to which I would like to direct your attention for a moment; that is, What is to be the value of the statistics which are, with great labor and considerable expense, being collected by the State?

Every member of this Association has more or less of this work to do, and I have no doubt does it in a conscientious and painstaking manner. But do all those to whom the law entrusts this duty do the same, and, if not, how can the defect be remedied?

I have seen a report of a death made out as caused by congestion of the kidneys, without the slightest allusion to the fact that the woman died in childbirth; and further investigation showed that this woman's still-born child was reported with "cause of death, puerperal convulsions." Naturally one could hardly believe that the child had puerperal convulsions, even though in the mother's case there was no mention of such a disease, nor of the trifling fact that a child had been born. In another case, where the mother and child were buried in the same coffin, the mother was reported as dying of "heart disease," without reference to the matter of the child's birth, and no return made of a "still-birth," until after the burial, and then only after it had been demanded by the registrar; and then I believe the cause of death in the case of the infant was also given as heart disease.

In another, the cause of death was given as "congestive chill," without mention of a confinement; but investigation showed that the birth of a "still-born" child had been registered as occurring a few days before, and I believe no cause of death given in the case of the infant.

Such reports are certainly misleading, and must seriously impair the value of any statistics compiled from them, and in this class of cases would show something more than mere ignorance, although that is likely enough to impair the value of many of the reports.

In conclusion, allow me thank you for your uniform forbearance and kindness, which have always made my duty in this Association a sincere pleasure.

ARTICLE V.

REMARKS ON "LEPTOMENINGITIS INFANTUM."* By ALFRED LUDLOW CARROLL, M.D., New Brighton, Staten Island.

The clinical history and pathology of acute hydrocephalus are involved in considerable obscurity, the symptomatology varying, on the one hand, in cases having a similar morbific origin, or, on the other hand, closely corresponding in instances due to different kinds of lesion. Even where examples of the several classes conform with the typical pictures of the text-books, it is frequently difficult, and sometimes impossible, to form a differential diagnosis *intra vitam.*

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*Read at the Second Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, October 12, 1886.

Excepting the guarded statements of Rilliet, Barthez, Guersant, and one or two other occasional writers, it is generally held that recovery from a meningeal attack in childhood precludes the idea of tubercular deposit; but whether non-mortal forms of acute hydrocephalus (not secondary to disease elsewhere) are always dependent on inflammation of the pia, or whether there may be other less serious pathogenetic factors, is a question still open to discussion.

Huguenin [Ziemssen's Cyclopædia] affirms that cerebral hyperæmia is the exciting cause in all instances save those occurring in marasmic conditions supervening upon chronic digestive disorders; and in these, forced to admit an anæmic state of the brain, he assumes "partly a hydrocephalus *ex vacuo*, in consequence of the diminution of the volume of the brain, * * * partly the result of the long-continued weakness of the heart's action and slowness of the circulation, with greater emptiness of the arteries than of the veins." In the former class of cases, he reiterates that we are "forced to assume a true inflammatory process as the cause of this effusion (into the ventricles), but at the same time it is impossible to say, during life, when the hyperæmia ceases and the inflammation begins." But in his description of the pathological anatomy it is admitted that the pia "contains a moderate amount of blood, or is anæmic; no traces of arterial hyperæmia can be found; * * * in the cadaver no trace of arterial hyperæmia is to be found. We are forced to assume that it disappeared at the moment of death."

Lewis Smith, describing tubercular and simple meningitis conjointly, speaks of the "inflammatory action" as usually confined to the pia mater, and includes purulent meningitis of the convexity, apparently, as a more intense form, adding that serous distension of the lateral ventricles is a common result in either variety of the disease. Vogel, on the contrary, asserts that "acute hydrocephalus never occurs in combination with simple meningitis, but invariably supervenes upon tuberculous basilar meningitis."

Other authors either deny a non-tubercular origin of acute hydrops of the ventricles, or, at all events, ignore the affection which Huguenin endeavors to differentiate, an affection of which well-defined examples are not infrequently encountered, but wherein we are asked to "assume" an ante-mortem hyperæmia which suddenly changes to a post-mortem anæmia, and an inflammatory process which does not leave behind it the ordinary traces of inflammation.

As regards the first of these assumed phenomena, all pathological investigations tend to show that we are much more likely to be misled by a post-mortem fulness of the intra-cranial vessels, where previous anæmia has existed, than to fall into the opposite error. Long ago the classical experiments of Kussmaul and Tenner (New Sydenham Society, Vol. V.) led them to the conviction that, "from the quantity of blood contained in the skull after death, it is seldom possible to draw certain conclusions with respect to the quantity contained during life;" and Moxon (Croonian Lecture "On the Influence of the Circulation Upon the Nervous System," 1881) states that "no degree of redness, or pinkness, or overfulness of blood about the brain or its membranes can prove that there was any morbid state of the circulation within the head before the act of dying."

On the other hand, although the mere so-called "determination" of blood, caused by local irritation, may speedily pass away, the evidences of inflammation are usually regarded as persistent and unmistakably recognizable after death. And these evidences lie, not in simple fulness of the larger vessels, but in the crowding of the smaller ramifications with coherent corpuscles, even in an early stage of the inflammatory process, whilst in a more advanced condition exudation-products are discoverable. In inflammation of the pia of undoubted character, this membrane is lacerable and infiltrated, the arachnoid thickened and opaque, fibrinous exudation being marked. In the disease described by Huguenin, there is no effusion between the dura and pia, nor in the meshes of the latter, the outer surface of which is "usually remarkably dry;" there is no exudation at the base; the ependyma of the ventricles shows no change, macroscopic or microscopic. The only significant morbid appearance is the turgescence of the choroid plexuses, sometimes with punctiform extravasations.

In brief, we have to deal with a disorder of which the pathological features are, more or less rapid accumulation of fluid in the ventricles with a specified morbid condition of the choroid plexuses; its clinical manifestations (by no means uniform), convulsions, unconsciousness, paralytic symptoms, and disturbances in the tract of the pneumogastric and splanchnic nerves. It has been shown that congestion of the pia leads to œdema of that membrane, and that true meningitis is accompanied by fibrinous or fibrino-purulent exudation, seldom inducing intra-ventricular effusion, except where there is a traceable extension by continuity, from a basilar meningitis to the lining membrane of the ventricle aud choroid plexus, thus giving rise to a more or less purulent exudate. Aside from tubercular meningitis, Rokitansky defines two forms of acute hydrocephalus; the first of which he ascribes to "disease of the lining membrane exclusively," the effusion deriving some opacity from the presence of the elements of plastic exudation, and the ependyma showing marked morbid changes; whilst of the second form, distinguished by the effusion of a clear, colorless serous fluid into the ventricles, he says that, "though an acute hydrocephalus, it cannot be admitted to be inflammatory; it bears, in fact, none of the characters which mark inflammatory states or products." This he attributes to localized congestions of various kinds, analogous to those which cause acute dropsies of many serous and synovial membranes, such as hydrocele and the acute œdemas. This form he therefore considers as closely allied to chronic hydrocephalus; and herein he is, to a certain extent, in accord with Huguenin, who regards non-tubercular leptomeningitis as "one of the chief exciting causes" of the chronic disease, and who, despite his assumption of a meningeal inflammation, avers that the ventricular dropsy "can only come from the diseased plexus choroidei." Nothnagel, however, notes the coincidence of ventricular fluid-distension with cerebral anæmia.

The known causes of serous effusions are usually found in anæmic conditions, or in mechanical impediment to the return of venous blood. Thus, dropsies of different sorts are common in the hydræmia or "hypalbuminosis" of general anæmia; from malarial cachexia; from feebleness of circulation in dilatation of the left cardiac ventricle; from aortic insufficiency; from pericardial adhesions; or, on the other hand, from valvular insufficiencies in the right heart, or any intermediate cause of capillary and venous stagnation. Within the cranium, such stagnation is especially likely to concur with arterial anæmia, since, even allowing for the balance ordinarily maintained by the ebb and flow of the cerebro-spinal fluid, atmospheric pressure tends to retard the egress of venous blood. Moreover, the outlet from the choroid plexuses, through the venæ Galeni and straight sinus, has the additional obstacle of a rectangular diversion at the torcular Herophili. It has long been known that in animals bled to death the intra-cranial vessels may retain their contents after all the rest of the system is drained. Meningeal venous turgescence of this kind, "ex vacuo," is familiar as arising from atrophy of the brain, and in other conditions associated with arterial anæmia. Furthermore, the pia gradually diminishes in vascularity from the convexity toward the base, until, at the crura and pons, it is almost devoid of vessels. Finally, we have the authority of Nothnagel for doubting whether active hyperæmias can limit themselves to circumscribed regions of the brain; whilst localized ischæmia about the basal ganglia is a more probable event, originating in arterial spasm, reflected irritation, or insufficient cardiac action.

Whatever the precise mechanism of the production of the cerebro-spinal fluid, Magendie demonstrated the rapidity of its regeneration in animals from which it was artificially withdrawn, and it is probably subject to considerable variations of quantity within the boundaries of health. But, under normal conditions, its free passage between the ventricles and the spinal canal through the foramen of Magendie equalizes its pressure. In internal hydrocephalus, however, since the brunt of the accumulation is borne by the ventricles, we must imagine both an excessive secretion and an impediment to its exit. In an instructive discussion in the Pathological Society of London (*British Medical Journal*, February 25, 1882), Dr. Barlow described occlusion of the cerebro-spinal opening as a cause of chronic hydrocephalus; Dr. Stephen Mackenzie mentioned three cases in which he had found this association of cause and effect; and Dr. Lees stated that he had seen a number of instances of closure of Magendie's foramen, and that in all these there was hydrocephalus. Orth

[Diagnosis in Pathological Anatomy] assigns pressure on the venæ Galeni by a cerebellar tumor as a cause of acquired hydrocephalus; but it is hard to imagine compression from such a source which would not also affect the fourth ventricle.

In the acute forms of hydrops it is noticeable that the lateral ventricles are chiefly distended, dilatation of the aqueduct of Sylvius not often noted, nor, as a rule, excessive accumulation in the third ventricle. Lewis Smith has observed that occasionally one lateral ventricle is more distended than the other, although usually the intercommunication through the foramen of Monro equalizes their contents. To account for this discrepancy, there must not only be some source of increased effusion principally operative in the lateral ventricles, but also some temporary narrowing of the foramen commune anterius; and if it be remembered that this opening transmits the veins of the corpora striata and the commissure of the lateral choroid plexuses, it is conceivable that the varicose condition of these latter may explain both phenomena.

Moxon (op. citat.) advances the proposition that congestion, independent of mechanical obstacle to the egress of blood, is, if not altogether mythical, at all events innocent of the offences commonly imputed to it, but which are, in the majority of instances, attributable to the directly opposite state of anæmia, and cites the familiar examples of caisson workmen, who withstand the inevitable cerebral hyperæmia induced by a pressure of three atmospheres for as many hours without evil results, trouble only arising when the pressure is taken off; adducing many other clinical and pathological facts in support of his argument. His explanation of the compensatory mechanism rests partly on the fluctuation of the cerebro-spinal fluid, which will permit a variation of from two to three fluid ounces, as it is displaced by, or replaces, the vascular contents (its quantity, therefore, being largest in anæmic brains); but more particularly upon a "stop-cock" action exercised through the choroid plexuses, especially those of the fourth ventricle, to the physiological importance of which he was the first to call attention. These plexuses vary in size, extending in some subjects nearly an inch into the sub-archnoid space, while in others they keep well within the bounds of the ventricle proper; their most marked anatomical peculiarity, however, is their continuation into the lateral depressions of the ventricle, so that when unduly gorged they trench upon the origin of the pneumogastric, and, through its inhibitory influence, induce a diminution of the arterial supply.

In the so-called "hydrencephaloid," ventricular effusion is admittedly associated with anæmia. Gooch, who at the beginning of this century wrote his famous essay, "Of some Symptoms in Children Erroneously Attributed to Congestion of the Brain," evidently included in his observations cases of the disease now under consideration, as well as of meningitis of the convexity; but the appearances on which he throughout lays most stress are that the blood-vessels of the brain were found empty of blood and the ventricles full of water.

As to the clinical phenomena of acute hydrocephalus, it is well known that convulsions are oftener due to cerebral anæmia, rapidly induced, than to any mechanical alteration of pressure upon the brain. Their occurrence after profuse hemorrhage or ligature of the main cerebral arteries, or when, as in asphyxia, "the arterial blood assumes a venous character," points to their origin in a sudden lessening of the nutrition of nervous tissue. Epilepsy is commonly conceded to be of anæmic origin, and Moxon has observed that in this disease the convulsive seizure is often preceded by a momentary arrest of the pulse. Nothnagel ascribes convulsions to anæmic changes in the medulla or pons, and adds that, when cerebral anæmia is induced more gradually, it may cause, instead of general convulsions, only localized spasms, such as strabismus, cervical retraction, etc. Everywhere, ischæmic innutrition of nervous tissue manifests itself primarily in so-called "irritability," expressed as spasm in the motor or pain in the sensory tract. Of course, if such innutrition pass a certain point, these signs of instability are succeeded by abolition of function. Headache, especially in children, delirium, dilatation of pupil, vomiting, and other symptoms, formerly attributed to hyperæmia, we now know to be oftener due to the directly opposite condition. Niemeyer affirms that "the so-called symptoms of pressure in apoplexy, tumors, the various forms of hydrocephalus, and other diseases encroaching on the intra-cranial space, are not immediately referable to the pressure on the brain-substance, but to the subsequent anæmia," and he farther points out the false interpretation usually given to increased pulsation of the carotids, which he defines as an essential consequence of cerebral anæmia.

Another mistake which I believe is frequently committed is to regard the vascular appearance of the external surface of the head and face as indicative of the intra-cranial condition. In states of general anæmia, facial pallor and cerebral anæmia are twin results of the same cause; but when the blood is pumped up toward the head in due amount, a localized ischæmia within the skull is apt to divert an increased flow into the external carotid, and those branches of the external carotid which arise before its entrance into the cranial cavity. The ophthalmic springs from the cavernous portion of the parent vessel, and, in its turn, supplies the lachrymal, sending twigs to the conjunctival, the palpebral, and the central artery of the retina; so that not even ophthalmoscopic examination can always furnish trustworthy evidence of the condition of the cerebral circulation. These anatomical considerations may serve to explain the familiar circumstance, adduced by Moxon, that during sleep, while the brain is anæmic, the face is ordinarily flushed and the conjunctivæ suffused and moist.

It is extremely difficult to discriminate during life between this, so to speak, idiopathic leptomeningitis and other meningeal affections of childhood. In early infancy, and after exhausting disease, the secondary "hydrocephalus ex vacuo" is to be considered rather as a mode of dying from other complaints, and the past history of the case (oftenest one of protracted diarrhœa) will afford a clue to its nature. True meningitis, commonly affecting the lateral part of the convexity, arises by traumatism or extension from adjacent foci, as in internal otitis, caries of the cranial bones, mastoid inflammation, phlebitis sinum, etc., and although in most examples its diagnosis may be made with some confidence, it is well to know that not a few cases occur in which the symptoms simulate those of acute hydrocephalus. In one such instance, the probable origin of which was from an otitis media, the symptoms led even so accomplished a clinician as Dr. A. Jacobi, who saw the patient in consultation with me, to suspect tubercular meningitis; and in the records of autopsies of the Staten Island Branch of the Nursery and Child's Hospital, setting aside the frequent instances of "hydrocephalus ex vacuo," meningitis of the convexity has often been found where a diagnosis of tubercular or leptomeningeal ventricular dropsy seemed to be warrantable; indeed, notwithstanding the class of inmates admitted to this institution, meningeal tuberculosis has been the rarest condition discovered in the post-mortem room. My own experience has induced me to believe that tubercular meningitis seldom if ever occurs except as a part of a more generalized deposit, and that the majority of the cases ascribed to this cause in death certificates, but not verified by necropsy, are really examples of Huguenin's leptomeningitis.

Where the disease ends in recovery, if it occur early in infancy, it may leave irremediable sequelæ (probably from "hydrocephalic softenings," which is simply a mechanical imbibition of serum by the circumventricular brain substance, causing irreparable damage or arrest of development) in the motor or intellectual sphere. I have seen two cases of permanent paresis of the lower extremity where the nature of the original meningeal attack in infancy appeared unmistakable, and two in which mental deficiency is very marked. In one of the latter, a girl, now about nine years of age (in whom, however, from the description given, the cause of the convulsions and stupor in an attack at three or four months of age is not quite so clear), an interesting feature is a quasi aphasia, her vocabulary being limited to a few elementary words, chiefly of labial character, while her ideas and desires are conveyed by gestures and inarticulate sounds. In her case there are no motor impairments, nor, although feeble-minded, is she actually imbecile.

To summarize the argument which I have endeavored to present, I believe that a malady quite frequently occurring in childhood, and often erroneously reported as tubercular meningitis, characterized by serous distension of the ventricles, and variously described under the names of "simple meningitis," "leptomeningitis," and "acute hydrocephalus," but by most writers ascribed to hyperæmia and inflammation, is, on the contrary, essentially due to cerebral anæmia; that the principal and most significant morbid factor is a varicosity of the choroid plexuses, sometimes extending to those of the fourth ventricle, exerting Moxon's "stop-cock" action, perhaps, in many cases, and thus aggravating the arterial anæmia which gave it birth. The microscopic preparation which is herewith submitted, and which is a type of what I have found in several necropsies, displays in some degree the condition of venous and capillary stasis, amounting in some twigs to thrombosis, sufficient to account for plentiful serous transudation, though neither in this nor in the other cases which I have examined were there any evidences of an inflammatory process.

ARTICLE VI.

A MEMORIAL NOTE RESPECTING PROFESSOR FRANK HASTINGS HAMILTON, M. D., LL. D.* By JOSEPH C. HUTCHINSON, M. D., Brooklyn, N. Y.

In the death of Dr. Hamilton, on the 11th day of August last, the profession and this Association have lost one of their most honored members, and one who has left a most distinct impress upon American surgery as a clear thinker and teacher, as an author, as a practitioner, and as a medico-legal expert. He was a practical sanitarian also, and an ingenious deviser of improved methods in the treatment of injuries and deformities.

Frank Hastings Hamilton was born at Wilmington, Vt., in September, 1813. He was graduated in arts from Union College in the class of 1830, and in medicine from the University of Pennsylvania three years later. He was then not more than twenty years of age. He began practice in Auburn, N. Y. He was not long in putting on the harness of a teacher of surgery; he was elected to the chair of surgery at the "Fairfield School," in Northern New York, when he was about twenty-five years old; he succeeded the celebrated Prof. Reuben D. Mussey. He next taught surgery during four years at the young school at Geneva. In 1844 he went to Buffalo, and soon joined forces with Drs. Austin Flint and James P. White, in founding the medical college of that city. Here he remained as Professor of Surgery until 1860, when he was called to take the same chair at the Long Island College Hospital. About this time, the war springing up, he entered the service as regimental surgeon; by degrees he achieved promotion, until, 1863, he was ranked as Medical Inspector. He was a member of the first faculty of the Bellevue Hospital Medical College, in 1861; he continued to hold one of the surgical professorships in that school until 1875. As a teacher he was held in very high esteem. He evinced both culture and force; to dignity of bearing he added affability; in the prime of his fame he had few peers as a popular teacher of surgery.

He was during many years, and until the time of his decease, one of the attending staff of Bellevue Hospital, an institution which had the advantage of many of the devices and expedients which bear his name as their originator.

As an author, Dr. Hamilton was remarkably well equipped. His treatise on "Fractures and Dislocations" has taken its position on the Olympus of the classics of medicine, being one of the first of American writings to win that place. Seven editions of it have been printed, and two translations of it in France and Germany. He wrote from time to time minor contributions to

*Read at the Second Annnal Meeting of the Fifth District Branch of the New York State Medicaj Association, held in Brooklyn, October 12, 1886.

the treatment of fractures and to bone-surgery. He was the author of a work on military surgery, and another on the theory and practice of surgery, both of which passed through two or more editions. The latter work, issued in 1872, bears witness to the extent of his attainments and the soundness of his judgment.

As a practitioner, he became best known to the public through his connection with the treatment of the case of the late President Garfield, having been called into the case by the request of the wife of the President.

In the court of justice Dr. Hamilton was frequently cited as an expert, and he was the means of shedding much light and just views in cases bearing upon the treatment of fractures and upon surgical operations. He was a good witness, and judges have admitted that they have had the law of the case clearly indicated to them by the thoroughness and fairness of his testimony.

When cholera appeared in the New York City institutions in 1866, Dr. Hamilton, then Chairman of the Committee of Inspection at Charity Hospital, expressed the belief that the disease could be promptly "stamped out" by the proper use of known sanitary forces. His views were ordered to be put to the test, and he was given full authority to proceed to carry them out. "The violence of the epidemic was speedily quelled, and a multitude of lives were saved." In so doing he opened a new page in the management of pestilential disease.

He thus proved himself equal to every occasion, and he touched nothing that he did not adorn.

With these brief references to a career full of usefulness and honor, this note must close; while expressing our regrets that thus early we should lose from our ranks so staunch an adherent to the ethical code, and a character so sterling and complete.

ORIGINAL TRANSLATIONS.

TREATMENT OF HYDATID CYSTS OF THE LIVER. BY L. G. RICHELOT.

Translated from the *Union Médicale* by H. McS. GAMBLE, M.D., Moorefield, W. Va.

Gentlemen:

I suppose that you are thoroughly acquainted with the etiology, the evolution, and the diagnosis of hydatid cysts of the liver. It is the treatment that will occupy our attention.

The disease, as you know, may last a long time, but it develops ordinarily in three or four years, and almost always it terminates in death; so you will not be astonished if I affirm that it is always necessary to attack it boldly. Authors have made some reservations upon this point; here, as in the beginnings of ovariotomy, it has been proposed to wait for grave symptoms, which is equivalent to saying that, in order not to risk abridging the life of a few patients, one must take the chance of curing none. We ought to forget this falsely conservative surgery, and to reason about cysts of the liver as about those of the ovary; to temporize is to intentionally increase the chances of failure; as soon as the tumor is recognized, if intervention is possible, it has no contra-indications. Without doubt, strictly speaking, it may abridge life; and if the one chiefly interested, in order to risk nothing at the present time, is willing to compromise the future, he has the right to do so. But the surgical indication is different, and the course that we ought to prefer, when we are free to do so, is that which saves the largest number of patients.

My object being, not to make history, but to show you where we now stand, I will omit a certain number of procedures that have fallen into desuetude, having been recognized as dangerous or as insufficient: the acupuncture of Trousseau, the various punctures by old methods (Jobert, Simon . . .), the incision of Bégin, of which the only harm is that it came before antisepsy, etc. For other reasons, I will say nothing of electrolysis, performed successfully in England, and vaunted recently at Grenoble (Congress, 1885). The French have but seldom applied it to hydatids; for myself, I have no experience of it in this particular. But all surgeons may judge comparatively the *capillary punctures*, the *method of Récamier*, that of the *large trocar*.

There is not one of us who does not commence the treatment of a hydatid cyst of the liver by aspirative capillary puncture, were it only to establish the diagnosis at the start. Aspiration is more easy and more certain than the old simple punctures. It should empty the cyst entirely, in order to avoid any effusion into the peritoneal cavity. After that it is necessary to immobilize the viscera; a bandage, disposed in advance around the abdomen, rest in bed for two days, if necessary injection of morphine—such are the requisite precautions; misfortunes have occurred to those who have not taken them.

Almost always the fluid is reproduced. Sometimes, however, a single puncture has sufficed to kill the hydatids and to cause the shrinking of the cyst and its final cure; but there should be no illusion in this regard, and above all is it necessary to guard against certain errors to which hospital practice exposes us. It has happened, for example, that a patient who has been tapped, cured during a certain length of time, has not been seen again in the same service; and whilst one registered him as an example of the good success of capillary puncture, he was going to show his relapse to another surgeon who registered him in his turn as an instance of the success of the method of Récamier. In short, relapse is the rule; after an evacuation or two, the cyst suppurates, and, from that moment, the puncture is sentenced. M. Rendu has, however, published a case of suppurative hydatid cyst of the liver cured by a single aspirative puncture; but this isolated fact is not of a nature to modify the conduct of surgeons. If the first insertion of the trocar has not succeeded in killing the hydatids, the reproduction of the liquid, its doubtful or frankly purulent state, the local and general symptoms of a profound suppuration, formally indicate a more radical intervention.

For my part, I do not hesitate to say that a puncture after relapse is always contra-indicated; in effect, if there are no adhesions, the effusion of the purulent liquid into the peritoneal cavity is to be feared. I know very well that there are the "large" and the "small ruptures," and that the latter do not always produce terrible accidents; nevertheless, repeated punctures are far from being inoffensive, and I am going to give you the proof of it.

In 1880, a man, 26 years old, had undergone, for a cyst of the liver, two capillary punctures; the second had given issue to a purulent fluid. In the month of July he entered the Hôtel-Dieu. M. Richet observed an abdominal distension, pains and slight chills; it was impossible not to recognize a new relapse of the cyst, with suppuration. The application of caustics, by the method of Récamier, was made at the level of the prominence. Then I took charge of the service of the Hôtel-Dieu, and I found the abdominal wall profoundly eaten away; it remained only to thrust in a trocar to empty the sac and commence the injections. I opened the cyst the 9th of August; a flood of pus escaped, without a trace of hydatid membranes; phenicated injections, one part to forty; the next day, death from acute peritonitis. My first hypothesis was that the adhesions produced by the Vienna paste were insufficient, and that part of the injection had passed into the peritoneal cavity. But I found at the autopsy, instead of a hydatid cyst, a suppurative peritonitis of old date, limited by intestinal adhesions, without counting the lively injection of all the neighboring coils. This masked phlegmasia, of slow progress, provoked by the second capillary puncture, had simulated a relapse of the cyst; in face of it had been applied the caustics; upon it, my phenicated injection had come to engraft a very acute peritonitis. As to the cystic pouch, it was shrivelled into the thickness of the hepatic parenchyma, very far from the peritoneal focus, from which the transverse colon separated it. Devoid of secondary hydatids and almost dry, it was cured, or very nearly so.

This observation, gentlemen, proves two things: on the one hand, that the capillary punctures may give rise to the escape of the hydatic fluid into the peritoneum, as has been known for a long time, and the accidents which result from it, although not always overwhelming, are none the less occasionally fatal; on the other hand, that the treatment of Récamier may give rise to grave disappointments.

[To be concluded.]

LECTURES.

Some Practical Hints upon the Technique of an Aseptic Surgical Operation. A Clinical Lecture Delivered in the Carnegie Laboratory. By Frederic S. Dennis, M.D., Professor of Principles and Practice of Surgery in the Bellevue Hospital Medical College.

In order to observe the small details of antiseptic surgery, one must have a sublime faith in its belief; because the smallest omission, insignificant as it may seem at the time, may be the cause of a complete failure. You will find some opposition to antiseptic surgery among a certain class of surgeons even at the present day. These surgeons will tell you that for over a half a century they have operated, and with no precautions to prevent septic infection, and yet their patients lived, and the wounds healed. Many of you, upon your return home, will find that your preceptors are still unwilling to accept the modern views of the day. They will even deride you for the punctilious manner in which you conduct an operation, and boast that their cases recover without all the red tape and paraphernalia which you have been taught to observe. They even look upon you in disdain, and consider all your precautions as a species of pedantry characteristic of newly-fledged doctors. No great revolution has ever been undertaken without opposition; no reformation has ever been brought about without antagonism. As this is true in the political world, so it has its analogy in the science of surgery. The opposition and antagonism are to be overcome, not by argument, but by persuasion, and by a reference to clinical facts. Compare the results obtained by the practice of antiseptic surgery of the present time with the results obtained by the older practice of fifty years ago, and an appeal to these facts in a kindly spirit will win over men when arguments will cease to convince. It is natural that men imbued with certain principles from their earliest days in the profession will not change those views, which have already become fixed, to accept other views foreign to their education, and which views they are expected to accept upon the faith of others. You are to anticipate this opposition, and you are to meet it in a kind and friendly manner; and the time is not far distant when these very men will be convinced of their error.

* * *

In every surgical operation, besides the general principles already enunciated, there are certain details to be observed, if the operation is to be aseptic, and the carrying out of these details will be considered under six different heads:

First. The Disinfection of the Operating Room.—The day before the performance of any capital operation, especially if it be one in abdominal surgery, I would recommend the disinfection of the operating room. The room should first be scrubbed and dusted and made ready for an operation. I have used burning sulphur for disinfection. The sulphur should be placed upon an iron tray, which is set upon another and larger tray, and the sulphur is then to be ignited. The tray should be placed in as close contact with the ceiling as is safe from fire, and the fumes of the sulphur will descend and fumigate the entire room. It is useless to place the tray upon the floor, because the gas will not ascend and no disinfection will be accomplished. With regard to the room in which an operation is to be performed in the country: In this case the necessity for disinfection is not so great; but if there has been any sickness in the house, or any epidemic in the neighborhood, this process of fumigation is simple. A small room should be selected, with southern exposure, and the carpet and hangings removed, and sulphur can be burned for a few hours previous to a capital operation. If the room has been carefully scrubbed, cleaned, and dusted, and then disinfected, you are safe from any local infection. It is always best to remove the carpet and hangings, because you need only a kitchen table and a stand in the room, and the continuous irrigation will do no damage if all the furniture is removed. The sheets and blankets for use during the operation should be loosely thrown upon the table during the fumigation. To some this step may seem superfluous and unnecessary; but in the event of a great operation every possible precaution should be taken to protect the patient from any infection, and no step is superfluous which has for its object the prevention of septic infection following any surgical operation.

Second. Purification of Instruments, Ligatures, Sutures, Sponges, etc.—Too much importance cannot be attached to a careful cleansing of all instruments for use during a surgical operation. Instruments for perfect disinfection should be of solid metal. The blade and handle should be of one piece, and consist of a polished surface. I have abandoned the use of all instruments with ivory or pearl or wooden handles. They cannot be perfectly disinfected, and therefore the metal handles should be substituted. As far as possible forceps and scissors and all other instruments should be made to be taken apart and disinfected. I have here upon these tables a most elaborate display of surgical instruments, kindly sent at my request by Mr. W. F. Ford for purposes of illustration. Every instrument is made with the one object in view, and that is thorough and complete disinfection. All scalpels are made of one solid piece, and the handles belonging to the saws and chisels are solid metal. I should recommend you to purchase all instruments so constructed as to permit of perfect disinfection. Before an operation all the instruments to be used should be placed in a glass tray, such as you see upon this table. I have requested Mr. Ford to import these glass trays from Germany, as they cannot be obtained in this country. Any glass or porcelain dish can be employed for the instruments; but these are so inexpensive and convenient that they will be found a valuable acquisition. Into these clean glass trays a solution of carbolic acid should be poured, of the strength of 1-20. There should be enough of the solution to completely cover the instruments, which should remain in this disinfecting fluid for an hour or two before an operation. The grease or dirt upon the instruments often prevents the carbolic acid solution from disinfecting certain parts of the metal, and for this reason it is well to let the instruments soak for some time in the solution. Just before operating this solution may be diluted one half with warm water, 1-40, in order to avoid its destructive effect upon the hands of the operator. Carbolic acid is found to be the least injurious to the instruments as a disinfectant, and bi-chloride of mercury has been demonstrated to be most deleterious. The ligatures for use should also lie in another small glass tray which has a solution of carbolic acid, 1-20. As catgut is liable to become soft and unfit for use in carbolic acid solutions, it is best to preserve it, when not in use, in oil of juniper. About half an hour before operating, the catgut may be immersed in sublimated alchohol—*i. e.*, hydr. bichlor. gr. vijss to alcohol oj—and kept soaking there during the operation. Catgut is the best material for ligatures, as it is aseptic, will not cause irritation, and becomes absorbed. Catgut has been shown to be the starting point of infection, and therefore it should be obtained from a most reliable place. Catgut cannot well be prepared, and should be purchased only as needed. Silk ligatures, which can be, used when the catgut cannot be procured in an emergency, can be, however, prepared by the surgeon without much difficulty. The formula given by Mr. Cheyne is a most useful one: take nine parts of beeswax, one part of carbolic acid, and melt these together. Let the silk lie in this until it is fully impregnated with wax and carbolic acid, then draw the silk through an aseptic towel and the friction will remove the superfluous wax. The ligatures can be cut and placed in a solution of carbolic acid, 1-20. The sutures can be made of catgut, or horsehair, or silk, or silkworm, or silver; but whichever variety is used, the suture must be thoroughly disinfected, as well as the harelip pins. The lead buttons may be used to prevent tension in large wounds. The drainage is most important in every wound. This can be accomplished by means of tubes or by capillarity, as introduced by Mr. Chiene, of Edinburgh.

The drainage-tubes may be of rubber, and the red rubber is preferable, because this kind of rubber tubing contains no free sulphur. The tube should vary in length and diameter according to the size, character, and situation of the wound. The tube should have holes cut in it at short distances, and the tube when introduced into a wound should not project beyond the surface of the body, otherwise the tube is pressed upon by the dressings and bandage, and the lumen of the tube is occluded. If the rubber tube is left too long a time in the wound it may become adherent to the wound by a process of adhesive inflammation and tear off, and part of the tube is then left behind in the bottom of the wound. This unpleasant complication I have lately had happen to me on two occasions, though the tubes were withdrawn within the required time. To obviate this accident I have of late used a tube made by Mr. Ford at my suggestion, consisting of pure ivory. This is polished smoothly upon its outer and inner surfaces. This tube will not collapse like the rubber tube, nor tear off, and possesses the special advantage that it can be used more than once, as the ivory tube can be as thoroughly cleansed and disinfected for use in several operations. These tubes should be introduced by Lister's sinus forceps, and fastened by a disinfected safety-pin.

Drainage by capillarity is employed by strands of catgut which absorb blood and serum, but not pus. The threads of catgut are collected into a bundle, and this kind of drainage is not removed as the tubes are, since the catgut becomes absorbed. The ends of the catgut are left outside so as to produce a syphon action. Horsehair is also used instead of catgut; but the horsehairs are removed from time to time, as it seems necessary.

Another method of absorbable drainage was introduced by Neuber, of Kiel. This consisted of bone tubes which were decalcified. An improvement to these tubes has been made by Mr. MacEwen, of Glasgow. The method of preparing these tubes as described by him is as follows: "The tibiæ and femora of chickens are scraped and steeped in hydrochloric acid and water, 1-5, until they are soft. Their articular extremities are then snipped off with a pair of scissors, the endosteum is raised at one end and pushed through to the other extremity, along with its contents. They are then re-introduced into a fresh solution of the same strength until they are rendered a little more pliable and softer than what is ultimately required (as they afterwards harden a little by steeping in the carbolized solution). When thus prepared they are placed in a solution of carbolic acid in glycerine, 1-10." In ten days they are ready for use after holes have been punched in them. The tubes will last longer if, instead of carbolic acid, chromic acid is employed.

Protective oiled silk should be used over the line of suture, to prevent the irritation of the carbolic acid, and also to prevent adhesion of the dressing to the wound. This protective oiled silk can be made in the following manner as described by Sir Joseph Lister: Take ordinary oiled silk, paint it over with copal varnish, and when dry brush over the surface a mixture consisting of one part of dextrine, two parts of powdered starch, and sixteen parts of carbolic acid, 1-20. Carbolic acid will not permeate the oiled silk if the varnish is added, and the mixture permits the piece of protective to be moistened throughout so that dust will not collect in places upon the protective, as it does when the mixture is not employed.

The sponges to be used in every operation must be carefully disinfected, otherwise they may become prolific and dangerous sources of infection. The process of cleaning, bleaching, and disinfecting sponges is very complicated, and I would suggest to you that the druggist do this, and when he has prepared them for you to carefully disinfect them, as this can be easily done by allowing them to stand in a glass fruit-jar containing a solution of carbolic acid, 1-20. The jar should be thoroughly disinfected before using it for this purpose, and it should be hermetically sealed at once and not opened until the operation. Any sponges which have been thus prepared and used can be cleaned by allowing them to stand in water a few days, and this will decompose and wash out the fibrin contained in the meshes of the sponges, and then they are again put up in the hermetically sealed glass jars. The employment of sponges a second time may be considered safe, if the disinfective process is carefully carried out; it is, however, best in every great operation to prepare fresh new sponges.

Third. The Preparation of Antiseptic Dressings.—There has always been more or less mystery, to say nothing of the expense, about the preparation of antiseptic dressings. It has been thought impossible to obtain them except through some especial agency. There is neither mystery nor expense about the preparation of these dressings, and I shall give you a few hints so that you can prepare them for any case and with but small expense. Every surgeon who practices antiseptic surgery has some modification of his own, and I shall only give you some general hints about the preparation of the dressings, so that you can have at command an easy and simple way of making antiseptic dressings. Bandages can be made by soaking cheese cloth for twenty-four hours in a solution of bichloride of mercury, 1-500, or carbolic acid, 1-20. The cheese cloth should be torn and rolled, and then disinfected again and wrapped in paraffine paper and kept in an ordinary tin box, so that the bandages are kept from the air. Naphthaline gauze dressing is made by dissolving the crystallized naphthaline in alchohol (in saturated solution,) but never in turpentine, as it is too irritating, and allowing the gauze or mull, which must be free from fat and acids, to soak for a day. This dressing is then dried by allowing the alcohol to evaporate, and the naphthaline powder will become crystallized, and then wrapped in the paraffine paper and placed in a tin box.

Carbolized gauze can be made by using paraffine, resin, and carbolic acid, and soaking the gauze in this mixture. Instead of using the gauze or mull, it is better to buy the von Brun's hospital gauze, which comes already prepared, and then disinfect it. The ordinary gauze must be subjected to some process to free it from the acids and fats, and this has already been done in the von Brun's gauze. The iodoform gauze is prepared by dipping the ordinary von Brun's hospital gauze, which can be purchased from any wholesale druggist, first into a bichloride solution, 1-1000, for a day, and then into a solution of alcohol and glycerine, equal parts. The excess of alcohol is forced out by pressing and the iodoform powder is rubbed well into the gauze, when it is spread out upon a large plate of glass. Or the iodoform may be placed in a bowl and the damp gauze kneaded with the hands until the iodoform is evenly distributed in the meshes of the gauze. Bichloride gauze is prepared by soaking for twelve hours the von Brun's hospital gauze in a solution of bichloride of mercury, 1-500.

Combined dressings can be made by placing a thin layer of borated cotton between two layers of the gauze, which may have been soaked previously in naphthaline, or iodoform, or bichloride of mercury, according to the kind of antiseptic dressing required. There are, of course, many other ways of preparing surgical dressings, but any surgeon, by following these simple instructions, can prepare for himself antiseptic dressings, and also find himself independent in this most important matter. All these dressings, while they can be made aseptic, have one objection in common, and that is the irritating effects upon the skin of certain individuals, and, while this is oftentimes a serious objection, at present these dressings are the best we have. I have found the naphthaline in alcohol the only dressing which is less likely to irritate the skin.

Fourth. The Disinfection of Patient.—Any part upon which an operation is to be performed is to be made perfectly clean and aseptic. With this object in view the surface is to be washed well with soap and warm water, and then thoroughly scrubbed with a clean nail brush. After the scrubbing, which will remove the grease and dirt and epithelium from the surface, the part should be cleanly shaved with a sharp razor and then again washed, after which ablution the parts should be disinfected with a solution of bichloride of mercury, 1-500.

This solution should be used freely and should be irrigated over the parts from an irrigator which is suspended. The vessel should be placed upon a shelf about six feet above the floor. The strength of bichloride can be 1-500 for skin; but over a wound 1-2000 is of sufficient strength. If a joint is to be washed out 1-10,000 is strong enough, and if the peritoneal cavity is to be irrigated the solution should be very weak, as the extent of absorbing surface is very great. A part of the intestine could be irrigated by a solution of 1-10,000 if outside of the cavity of the peritoneum; but any solution within the cavity must be very weak. Boro-glycerine is the best solution for the peritoneal cavity. Patients are salivated by a continuous irrigation over an extensive wounded surface.

A rubber cloth is a necessary article during an operation. This should be well washed before using with a solution of carbolic acid, 1-20, or a bichloride solution of 1–500. The rubber sheet should be placed under the patient so as to be above the part to be operated upon, and should be gathered up and fastened by safety pins and the lower end be over a pail in order to catch the solution as it is irrigated over the parts before and during an operation. Long sand bags placed under the rubber sheet will form an artificial trough through and along which the irrigating fluid can flow. If the front legs of the operating table are elevated by placing two bricks or wooden blocks under them, the force of gravity will cause the fluid to descend and fall into the pail or any receptacle at the end of the table. Clean towels should be wrung out in a warm solution of bichloride, 1-1000, and placed above and below and upon both sides of the part of the body to be operated upon, and fastened at the corners with safety pins so that the wound will not be touched with any part of the body, or any clothes upon the patient may not come in contact with the wound. Any instrument or sponge thus cannot come in contact with any surface which is not disinfected. After an operation all these blood-stained towels should be removed and clean ones substituted before any permanent dressing is applied. A saturated solution of iodoform and ether, or naphthaline and ether, can be poured over the part before an operation. But after a thorough disinfection of the part in the manner already described, from the beginning to the end of an operation continuous irrigation should be kept up, so that the parts and instruments and sponges and ligatures are continually saturated, and thus protected from any possibility of carrying infection. The strength of the irrigating fluid must be graduated according to the character and situation of the wound. This fact should never be lost sight of, that a safe irrigation for the skin is dangerous for a joint and fatal to the peritoneal cavity. The strength, then, of a solution for continuous irrigation must of necessity vary according to the nature of the part to be irrigated. As it is very desirable to have at hand a ready means of making these solutions, the formulæ of the two most frequently used will be appended:

1. For the *bichloride*, the surgeon should prepare a solution of mercury in glycerine as follows:

℞	Hydr. bichlor.	℥ij.
	Glycerinæ	℥iv.
	M.	

This will give a strength of half a grain to the minim, so that, using this as a standard, and recollecting that eight grains to the pint corresponds to 1–1000 (approx.) a solution of any strength may be readily computed. Thus, to make 1–1000, it is only necessary to add sixteen minims of the glycerine solution to a pint of water, and this in turn may be diluted to any extent.

2. As alluded to above, the use of mercuric solutions is not devoid of danger, and hence, for other than surface irrigation—as in washing out suppurating cavities, *i. e.*, empyema—a milder and less irritating antiseptic is to be preferred. The material best adapted for this purpose is *salicylic acid* according to the formula of Prof. Thiersch:

℞.	Acidi Salicylici	ʒss.
	Acidi borici	℥ss.
M.	Ft. pulv. No. 1.	

These powders may be kept on hand, and, adding one to a quart of warm water, a solution of convenient strength is secured.

Fifth. The Disinfection of the Operator.—The surgeon and every assistant should be scrupulously clean. The hands should be washed in warm water and soap, and scrubbed well with a nail brush, and then dipped into a vessel containing carbolic acid, or bichloride of mercury. After the hands have thus been washed and the finger nails cleaned and then disinfected, no towel should be used to dry the hands, for the towel itself may become a source of danger. A rubber apron, previously disinfected, should be worn, and over this a clean white linen apron should be placed, which apron has been carefully prepared by a competent nurse. What has been said in reference to the operator and his assistants is likewise applicable to the trained nurse who is in attendance upon the case, as well as all others who assist in the toilette of the patient. In pointing out these few practical hints in reference to the preparations which should be made for every surgical operation, I do not wish that it should be understood that there is any desire to adhere to one antiseptic solution in preference to others, or to commit myself to any one solution.

The solutions which have been recommended in the lecture this morning, are those which up to the present time have been found by the majority of surgeons to be the most satisfactory, when all things are taken into consideration. I do not hesitate to state that, in my own experience, I have seen serious trouble arise from the use of any and all of these solutions. In this bottle is urine, which is nearly black, and it was voided by a patient who was obliged to submit to paracentesis thoracis, and the spray of carbolic acid for a few moments thrown upon the chest wall had given rise to this condition of urine. The use of carbolic acid as a disinfectant not only poisons the patient occasionally, but it has been known to produce acute albuminuria in surgeons. Thus it is evident that carbolic acid, while it is the best disinfectant for instruments, sponges, and the surgeon's hands, has nevertheless some serious objections.

Bichloride of mercury is most useful for continuous irrigation, and is perhaps one of the best germicides that can be employed; but it, too, has its objections. Bichloride of mercury ruins surgical instruments, will often produce salivation of patient, and more often will excoriate the skin over whatever part it is used in a dressing.

The question naturally suggests itself to you at this point, What is the best solution to use? I have found sulphurous acid the best for continuous irrigation; but while it is the most efficient germicide, the gas cannot be kept in solution for the purpose of making surgical dressings, as the gas escapes from the gauze. Hyposulphite of soda is another excellent solution, and possesses the special advantage of being useful as a disinfectant for instruments, the hands of the operator, for the preparation of surgical dressings, and for continuous irrigation; but it has one great disadvantage which prevents its use, and that is the slippery feeling it gives to ligatures and to the surgeon's fingers. Naphthaline is also good for dressings; but it is difficult to get a pure article, and the impure powder is deleterious. I have mentioned these facts simply to show how difficult it is to procure one solution which is applicable for disinfecting instruments without injuring them, for washing the hands without producing unpleasant effects, and, finally, for preparing surgical dressings. It is for these reasons that I have already mentioned that up to the present time there is no one germicide which can be used in common for disinfecting instruments, purifying the hands, and preparing dressings. The subject of an efficient germicide, with no disadvantages, is one still under consideration by surgeons, and until such a perfect germicide is discovered we must be content with what we have at present in use, and employ our solutions with great care, and avert, as far as possible, the serious objections which we find in their use.

An ideal solution is one which can be employed for disinfecting instruments and ligatures and sponges without detriment, and, at the same time, be used for continuous irrigation without injury to the patient or the surgeon, and also one which is easily made and which is economical, and which will not become volatile or render the fingers slippery, or lose its germicidal effect by evaporation. It will be a great advance in antiseptic surgery when a single solution is discovered which will answer all the essential conditions. The great principles of antiseptic surgery will thus be simplified and within the reach of all to carry out in daily surgical practice. The great difficulty, heretofore, in carrying out the principles of antiseptic surgery, in the practice of those not especially educated in this department of surgery, has been in the fact that there has been no unanimity of opinion among surgeons as regards the relative value of the different germicidal solutions. Another difficulty has arisen in the fact that one solution of a certain strength must be employed for instruments and another solution for the surgeon, and still another for irrigation, and again another for the dressings. This has led to confusion, and when an ideal solution is found all this technique will be simple instead of complex, and the merest tyro in surgery can carry out the principle upon which this great system of surgery is based.

Sixth. The Application of the Antiseptic Dressings.—Too much importance cannot be attached to the permanent dressing after an operation has been performed in an antiseptic manner. Carelessness, on the part of the surgeon, in the application of the dressings, may result in complete failure to secure primary intention. The wound should be perfectly dry and free from all loose coagula before the sutures are introduced. The kind of drainage to be employed depends upon the character, situation, depth, and size of the wound.

If the wound be small, as, for example, after osteotomy, the strands of catgut inserted into the bottom of the wound, with the ends left hanging out of the lower angle of the wound, will be found a most efficient and excellent method. If the wound, on the other hand, be large, then a red-rubber drainage tube, or the ivory tube on the glass canula, will be found to be the best for providing an escape for the inflammatory exudates which are always present after an extensive wound. The sutures should be of catgut for small wounds; but silkworm, or silk, or silver, should be employed in amputation wounds, or any wounds of considerable size. It is not safe to rely upon catgut if there is likely to be any tension in the wound. I have found that catgut is good for superficial sutures, while the silkworm or silver, or even harelip pins, are best for the deep sutures.

After the edges of the wound are nicely and accurately adjusted by cutting away with a pair of scissors, curved on the flat, any loose fatty or connective tissue, which insinuates itself between the lips of the wound, the suture should be tied, and if any tension exists, the button suture can be employed with great advantage. The surface of the wound should now be irrigated for the last time, and then iodoform or naphthaline powder be dusted over the linear incision, and then protective placed over the wound, and finally a bandage, which is wet with a bichloride solution, wrapped around the part. The wound is now protected and the surrounding parts are to be carefully dressed. A layer of the combined dressing should now be made to envelop the part at a good distance in every direction from the original wound. This combined dressing should be made secure by an antiseptic bandage. If the wound be a fracture, a plaster-of-Paris bandage can now be applied, and a layer of borated cotton can be first wrapped about the whole limb before the plaster-of-Paris bandage is applied.

If the wound be dressed in general, in some such way as has been described, this first dressing need not be disturbed for eight or ten days, unless for the purpose of removing the drainage tube, which can be done without taking down the entire dressings. If the dressings be stained with serum, or there be any other discharge, this first dressing should be removed and a clean new one applied with every antiseptic precaution. It is well, in every case, to change the dressings after eight days, even if there seems to be nothing wrong. A neglect of this rule has been followed, in my own experience, by some unpleasant complications, and I believe that every surgical wound should be examined as a matter of precaution. I have seen serious trouble occur when a fracture-dressing was cut down at the expiration of six weeks, although there never was any evidence or sign of trouble during the six weeks. Whenever a dressing is removed and a new one applied, the same attention to details and the same antiseptic precautions should be observed as during the application of the first and original dressing. Carelessness on this point has been followed by suppuration in a wound which had nearly completely healed by primary intention. Every surgical dressing, be it the first or the last, in the history of any wound, should be made with the same care and attention.

Another point seems to me of great importance, in the treatment of every wound, and that is the maintenance of absolute rest to the part during the repair of the wound. The equable and uniform pressure upon the wounded part, secured by the combined dressings which have been described, are inadequate to secure mechanical fixation to the part without the aid of splints so applied as to maintain physiological rest to the wounded part, as well as the parts in the vicinity of the wound. Every surgeon has his own peculiar way of applying his dressings, and the method which has been described is only intended to impress the general principles involved in wound treatment. The great principles of absolute rest, of free drainage, of uniform compression, of freedom from pain, of absence of constitutional disturbances, together with many other salient principles, are thus maintained by these simple rules in the application of surgical dressings.

Now, gentlemen, having completed the operation with every antiseptic precaution, you are justified in the belief that all will go on well to a successful and rapid recovery. Should anything happen to prevent primary intention in the wound, you must carefully search for the cause and remedy it at once. The triumphs of antiseptic surgery are so numerous and so uniform that the cause is to be found in the omission, on your part, of some detail in the technique of the operation. Look always for the cause to some defect in your manner of operating, or in the use of your antiseptics. If you fail in your first attempts, inquire rigidly into the cause of failure, and do so with the positive assurance that the fault is with you and not with the patient or the system of surgery which you have attempted to practice. It is with this spirit that you should adopt the great principles of antiseptic surgery, and when you are fully convinced, by actual experience, what great things can be accomplished, you will not wonder that hundreds of operations can be consecutively performed, and the patients escape from septic infection. We can do now what could not be done a few years ago, and I trust that you may all participate in the great work, and contribute much to the science which we have studied together, and which offers to suffering humanity assistance such as never could be proffered before the introduction of antiseptics.—*Journal of the American Med. Association.*

SELECTIONS.

MALARIAL HÆMATURIA. By R. H. day, M.D., Baton Rouge, La.

The literature of *Hemorrhagic Malarial Fever* is very meagre and dates back to only a few years in the past. Our old authors do not mention it, if I recollect rightly, and even our recent standard authors are nearly, if not quite, as silent; or, if they speak of it at all, it is so indirectly and cursorily as to convey but little information on the subject. Why this is so, it is difficult to give a good reason, unless, perhaps, it is that our standard medical writers, ancient and modern, were city practitioners of medicine and acquired their experience and information from those fields of labor only where they had but few, if any, opportunities afforded for its personal observation; and hence did not, and could not, write of a disease they had not seen and knew nothing about. Nevertheless, whatever may have hindered, it is a fact that nothing is known of this disease, except what has been written about it of late years; for it is only in recent years that medical men have begun to observe it closely, to write up its symptoms, to discuss its history and nature and its correct treatment. And especially is its investigation upon a scientific basis of recent date.

Those who first observed and wrote of this disease were men whose labors were confined to rural and insalubrious localities, where facilities for scientific investigations were entirely wanting, and were obliged to depend solely upon clinical observation and experience for the information or knowledge they collected, and hence could merely describe its symptoms and the remedies used in its treatment; while those who have more recently observed and thought more deeply about it have so differed as to its essential nature and plans of treatment that the profession up to this day are divided in opinion upon these points.

I may not be more fortunate in my efforts to throw light upon this subject than others have been, but I may hope, from my long experience and attentive observation, if I can express my thoughts clearly, to help to direct medical thought to correct conclusions, and dispel much of the ambiguity that now attaches to its literature.

Hemorrhagic malarial fever, or malarial hæmaturia, known by the laity as "*swamp fever*," and so called by some of the faculty, to designate its prevalence in swampy localities, is a disease, according to my observation, more or less prevalent in all river deltas, low-lying, swampy districts, and contiguous neighborhoods in every part of the United States, between 42° north latitude and the Gulf of Mexico during the late summer and fall months.

Notwithstanding, it is thought by many to be a disease of recent development, having, it is said, first been observed in Georgia, in 1846 (Dr. I. J. Newton, Jr., in a paper read before the Louisiana State Medical Society in New Orleans, in April, 1885), I here emphatically state, repeating what I said on the occasion referred to, that in 1837, up to 1843, I encountered this disease every year in the bottom lands of the Wabash and White rivers in the States of Illinois and Indiana, and from 1843 to 1846 in the White River bottoms in the State of Arkansas, and that the oldest citizens of those places at that time recognized this disease and spoke of it as their ancient and common enemy in those highly malarious localities.

The idea, then, that it is a disease of recent origin would seem to be erroneous in the light of this experience, and clearly irrational, if we are correct in supposing that the same causes and conditions which now engender it have existed in all past time, and must have exercised the same pathogenic efficiency then as now. That it is a miasmatic disease, caused by malaria, whatever that undefined and as yet undiscovered fever poison may be, there can hardly be a reasonable doubt. Its occurrence in the same localities, at the same season of the year; its striking resemblance and strongly marked physiognomy to the malarious bilious diseases endemic in those districts, and its general amenability to the same therapeutic agents, reveal its kinship, stamp it as allied to and of common origin and nature with them. We then unhesitatingly class it as an hepatic-renal affection of malarial origin, depending upon malarial toxæmia for its existence and striking morbid manifestations.

Like all other diseases of which we have any knowledge, it is marked in its attacks and progress by various shades of intensity, some cases being comparatively mild and even intermittent in form, while others are deeply virulent, pernicious, and rapidly fatal in character. In the milder cases, the systemic disturbances are less threatening and the local symptoms less aggravated; the blood that is passed in the urine or from the bowels is not decomposed and disintegrated as in the violent and acute cases. In the former, the red-blood corpuscles are readily detected in the urine by the microscope; in the latter, the urine contains only the debris of decomposed and disintegrated red-blood globules, tube casts, etc. The former is fairly illustrated in a case reported by the late Dr. S. M. Bemiss, as "Malarial Hæmaturia," in the "System of Medicine," by Pepper, in his article on "*Malarial Fever.*" He says, Vol. I., page 611: "C. E., aged 26 years, was admitted to Ward 19, Charity Hospital, November 18, 1872. Has been in America more than a year, and for several months had been working in an intensely malarial district, preparing the bed of a railroad. Has had malarial diseases for several months, and suffered a severe chill the day before admission. A few hours after admission, temperature 103°, pulse 120, respirations 29; effusions in both thoracic cavities and very marked in abdominal cavity; lower lobe of the right lung œdematous, legs anasarcus, pitting greatly on pressure, with several ulcers of long standing; urine loaded with albumen, and showing under the microscope ***abundant blood-corpuscles*** (italics mine); considerable jaundice present, which the patient states to have occurred suddenly. Ordered 5 grains each of calomel and bicarb. sodium, to be followed with 10 grains quinine every two hours. November 22—patient has taken and retained one hundred and eight grains of quinine. Secretion of urine abundant: no blood present, and only a trace of albumen. Ordered 20 drops of tinct. chloride of iron three times daily. Discharged, cured, December 12.

This case, reported by Dr. Bemiss as malarial hæmaturia, although complicated with serous effusion in both thoracic and abdominal cavities, was obviously only a specimen of the milder form of the disease, demonstrated by the entire absence of nausea, the presence of red blood-corpuscles in the urine, and the ready yielding to a dose of calomel and the liberal use of quinine.

Dr. George Harley, in his great book on the "Diseases of the Liver" (and, I add, the most practical and scientific work on the subject I have ever read), gives the history and symptoms of two cases of this disease, under the title of "Paroxysmal Hepatic Hæmaturia," less complicated than the one related by Dr. Bemiss, but possessing two remarkable peculiarities—that of a decided intermittence, with the urine normal or nearly so during the apyrexia, while during the paroxysm the urine was loaded with blood, decomposed and disintegrated, with scarcely a single entire red blood-corpuscle to be seen under the microscope. Dr. Harley says: "The most remarkable features of this affection consist in the strange fact that, although the abnormal urine passed by the patient during the attacks contains the whole of the ingredients of the red blood-corpuscles, scarcely a single entire blood-cell is to be detected in it by the microscope, their debris being at the same time visible in every direction."

That these cases related by Dr. Harley were also of the milder type is very clearly shown by the comparatively mild constitutional symptoms and the readiness with which they yielded to calomel and quinine, the same as in the case of Dr. Bemiss. In the graver forms of this terrible disease, the symptoms are greatly aggravated, much more violent, and of the gravest character. From the initial chill, there is distressing nausea and vomiting, small, frequent, and feeble pulse, great prostration, and the emission of dark, bloody looking urine, presenting to the naked eye a broken down condition and decomposed aspect, loaded with small, black, granular bodies and tube casts, and the debris of decomposed and disintegrated red blood globules (with no entire blood-cell visible under the microscope) and pinched sunken features, all indicative of profound constitutional contamination. I am sorry that I have not Dr. Joseph Jones' description at hand, but it gives me pleasure to be able to give what Dr. Jones says, through Dr. Harley, who writes: "Dr. Jones, of Louisiana, has called attention to the fact that, in his district, there is a very marked acute form of this hepato-renal malarial affection, which he says is characterized by well marked jaundice, as well as hæmaturia. In some cases immense quantities of green biliary fluid, or liquid tinged with bile, are vomited, and the patients die in a state of collapse, with blue mottled purplish extremities, and sunken, pinched features. As a general rule, suppression of the function of the kidneys is a fatal sign, and, as in yellow fever, is sometimes attended with convulsions, coma, and delirium. And while some of the symptoms, as the nausea, incessant vomitng (in extreme cases black vomit), deep jaundice, and the impeded capillary circulation, resemble those of yellow fever, yet there are marked differences between this disease and yellow fever; the pathological changes observed after death are characteristic of paroxysmal malarial fever, and not yellow fever." His graphic and truthful description of this acute and violent type of malarial hæmaturia is significant of its typical character, clearly distinguishing it from the milder forms spoken of, and accords with the experience of all careful medical observers who have become familiar with it by personal observation.

It would be tedious to particularize cases, and would swell this paper to undue dimensions to do so, but I would refer my readers to an article on this disease by Dr. McHatton, of Georgia, and published in the *Atlanta Medical and Surgical Journal*, October number, 1884, and to the valuable collection of cases by Dr. Cochrane, of Mobile, Ala., and reported in the *Journal of the American Medical Association*, verified by the analysis of the urines by Dr. Geo. Sternberg, of the United States Army, and Professor Tyson of Philadelphia.

It will be observed, by reference to these papers and cases, that the one invariable and uniform symptom, marking and distinguishing this type of the disease, was the bloody urine, destitute of red blood-corpuscles, under the microscope, and presenting a decomposed and disintegrated condition of the red blood globules.

I deem it of very great clinical and therapeutic importance that the differential diagnoses between this malignant type and the milder forms of the disease should be clearly understood and recognized by the medical profession, in order to adopt the best and most rational treatment, suited to its various conditions and manifestations, and to avoid that confusion and ambiguity of statement so conspicuous in many of the contributions to the literature of this subject.

Its etiology. I suppose, as already stated, there can be no doubt of its malarial origin. And yet it is only proper that I should state that the eminent medical scientist and practitioner, Dr. Harley, records a case that would seem to indicate that the disease may be engendered by other causes than malaria. Dr. Harley, in his work on the "Diseases of the Liver," pages 246–248, records, in substance, the following case: The subject, being by trade a blacksmith, of a stout and robust constitution, had never been out of London, nor subject at any time, as far as could be known, to any miasma. When first seen by Dr. Harley, December 24, 1864, he had a dark, sallow, careworn complexion, with evidence of hepatic trouble, and was paroxysmally passing bloody urine corresponding with his chilly or cold sensation. He was treated with calomel and quinine, and speedily made a perfect recovery. Notwithstanding this apparently exceptional case, I believe it is thought by all medical men who are conversant with the disease to be the direct result of malarial poisoning. And, so far as I am capable of judging, the evidences leading to this opinion are clear and beyond all question. And, according to my observation, the type or violence of the disease bears a direct ratio to the intensity of the poison, or the duration to its exposure. I have never seen a case of serious or grave import, but, in connection with indubitable proof of chronic and intense malarial toxæmia, not until such destructive changes had been wrought in the blood by this subtle poison, as to render it unfit and incapable of longer continuing the vital functions.

How malaria operates on the human organism to effect this destructive change of the blood, is a matter of conjecture. Yet some experiments of Dr. Harley seem to be giving to physiological and pathological speculation the character of scientific certainty. After giving, with great minuteness, the chemical characteristics of the urine, in malarial hæmaturia, and its several constituents, he says: "I was particularly struck with the resemblance this urine bore to the urine I have occasionally seen dogs pass, after I had injected either bile or bile acids, in toxic doses, under the skin of their backs. Their urine not only occasionally presented exactly the same color, but contained lots of granular tube casts, and still further resembled this human urine in being coagulable by heat and nitric acid. All this leads me to the conclusion that the condition of the urine in cases of paroxysmal hepatic albuminuria is, in great part, due to disorder of the biliary secretion, brought about by the direct result of malaria acting upon the liver." Again he says: "As bile acids have a powerful disintegrating effect on the cell-walls of the red-blood corpuscles, it has once or twice crossed my mind that this peculiar condition of the urine in paroxysmal hepatic hæmaturia may possibly be due to an abnormal quantity of bile acids in the circulation." If, then, the bile acids, abnormally present in the blood, do have "a powerful disintegrating effect on the cell-walls of the red-blood corpuscles," as stated by Dr. Harley, we have furnished us a scientific and chemical cause for the decomposition and disintegration of the blood, and the reason why no entire red-blood corpuscles are ever detected in the urine of malignant types of malarial hæmaturia. "In the *New Orleans Medical and Surgical Journal*, for August, 1885, under the heading, "A Clinical Study of the Liver, as Viewed Through the Urine," is quite a well-written article, commenting upon the researches and experiments of Dr. Oliver, an abstract of which is published in that number of the *Journal*. It will there be seen that Dr. Oliver ascribes to the bile-acids or their salts, in abnormal quantities in the blood, a hæmolytic property, corroborating the views advanced by Dr. Harley, and giving force to the statements herein made. And the writer very truly observed: "Their (bile-acids) enormous increase in malarial hæmaturia also explains the presence of bloody urine, and suggests the point of attack in the treatment of the disease."

That there is a destruction of the red-blood corpuscles, under the action of malarial poison, does not seem to be a matter of conjecture, but a pathological fact. demonstrated by rigid microscopical examination, by our best and most experienced pathologists and microscopists. Among them I may name, with some degree of pride, Dr. Joseph Jones, of New Orleans, whose skill and competency and indefatigable scientific researches are recognized everywhere among medical scientists. He says, in his *Medical and Surgical Memoirs*, vol. I., p. 485: "The *colored blood-corpuscles* are more uniformly and rapidly destroyed in severe cases of *malarial fever* than in any other disease, with the exception, perhaps of pyæmia." But it is to be noted that the destruction of the red blood-corpuscles is the direct result of the action of the bile acids upon the blood, and, it is pertinent to inquire: Whence the presence of the bile acids in abnormal quantities in the blood? They are not normally there, and must have been derived from some potent factor.

It is unfortunate that up to this day, notwithstanding the claims of Drs. Salisbury, Klebs, Crudelli, and others, to the discovery, no one has been able to establish the identity, the nature—physical or chemical—or bacteriological character of the poison, so that its properties could be analyzed, and its specific toxicological action upon the human organism scientifically tested and demonstrated. But clinically, for ages upon ages, certain well-defined abnormal changes and diseased conditions in the human organism have been seen uniformly to be produced by a residence in, or exposure for any lengthened period to, marshy or what is by general consensus of medical opinion regarded as malarious localities. Among these abnormal changes, besides the family of paludal fevers, dysentery, etc., which are so prevalent in such districts, we have also the disease now under consideration, which appears to be the result of the chronic or protracted action of the miasma poison. And a careful clinical observation of the symptoms and abnormal changes in the human organism, in their order of sequence, would seem to point to a congestion of the liver as the primary effect of this intangible poison, constituting the initial link in the chain of morbid processes afterwards developed. From this hepatic congestion and the probable presence of the malarial poison in the circulation, still further paralyzing the nervous or vascular tone of the hepatic functions, its biliary secretion is arrested, more or less completely, and the elements that ought to have been eliminated are retained in the blood, and, among these, the bile acids, which at once begin their work of destruction upon the red blood-corpuscles. As a result of the passive congestion of the chylopoietic viscera, enlargement and induration of the liver and spleen ensue, while, from the destructive changes in the hæmoglobin and the red-blood cell-walls, we have jaundice of all the tissues and well-marked progressive anæmia. From the non-secretion and elimination of the bile and bile acids, and their consequent retention in the blood, daily and hourly in transit through the kidneys, there develops renal congestion, resulting in grave lesions in those important organs, and finally a break down, culminating in the discharge, through the kidneys, of the decomposed and disintegrated blood, epithelium tube casts, etc. This, it appears to me, is a rational and correct explanation of the pathological and anomalous conditions and their order of sequence, which we witness in the clinical history of these cases, and fairly and logically deduced to arise from chronic malarial poisoning.

It is very important that all of these abnormal processes should be clearly recognized and appreciated, in order to be able to institute a rational and scientific treatment; for it is obvious that the chief obstacle, heretofore, in the way of a correct treatment, was in the fact of a misconception or a misty apprehension of these lesions.

Treatment. In the milder form of the disease, this is simple, easy, and successful, as already illustrated in the cited cases of Drs. Bemiss and Hartley, a few doses of calomel, followed with quinine, being all that was necessary. When, however, the type is violent and malignant, we will have ample scope for the exercise of our deepest thought and grandest skill. In these malignant cases the patient will be troubled from the onset with distressing nausea, frequent retching and vomiting of a greenish fluid with mucous flocculi; the pulse will be small, frequent and feeble, the skin shriveled, and surface cool or cold, with shrunken and pinched features, and the frequent emission of dark, bloody urine, presenting the appearance of disintegrated and broken down red-blood cells, loaded with the bile pigments in the form of small black granules. In all such cases the urine, when carefully examined with the microscope, will be found almost, if not entirely, without a single red-blood corpuscle. These are the severer types of this disease, most malignant in character, that claim our attention. When called to a case of this type we would promptly apply dry cups to the epigastrium and right hypocondrium, with a view to drive the blood from the congested vessels of the stomach and liver to the cutaneous surface, and follow the cups by a blistering plaster over the same regions to maintain the circulation in the skin and to aid in stimulating the liver to its secretory action. Give hypodermic injections of morphia to quiet nervous irritation and to compose the stomach to rest. Give to adults five grains of calomel with three grains of bi-carb. soda every three to four hours, till the alvine discharges show the presence of bile, and the liver again resumes its work; after three or four doses have been given, if the bowels have not been moved, give enemas of plain warm water, or containing a dessert-spoonful of camphorated oil, or a small teaspoonful of table salt. If the stomach should still be troubled with nausea or a tendency that way, give an emulsion, each dose consisting of one drop creosote, one-twelfth to one-eighth sulph. morphia, three grains bi-carb. sod., and a drachm aqua menthæ, and repeat every two to three hours as long as required. Frictions over the back with dry mustard and pulv. capsicum, as also to the arms and legs, should be assiduously applied, supplemented with dry heat to the body. As soon as the calomel has produced a well-marked bilous fecal discharge, or reaction is manifest, no time should be lost in pushing quinine, but not in doses too large. It is all a mistake and highly mischievous to give very large doses of quinine, except in the congestive pernicious forms of intermittent fever, where it is an absolute necessity to prevent the recurrence of another paroxysm. But in this disease, with this type, five to ten grains every three to five hours, till there is slight manifestation of cinchonism, and then at long intervals, so as to keep up a moderate impression for the purpose of antagonizing the malarial poison, and giving tone to the nervous centres.

The quinine, if the stomach will not tolerate it, should be given hypodermically, which is the preferable plan on account of the danger of again setting up nausea and vomiting. As soon as the function of the liver is measurably or appreciably established, and enough quinine has been introduced in the system to make its physiological effects manifest, commence to give the muriated tinct. of iron in full doses, twenty to thirty drops every four hours, with a view of toning up the debilitated blood vessels, reconstructing and vitalizing the hæmoglobin and the red-blood corpuscles, and thus restoring the normal and vital condition of the blood. If the kidneys should fail to excrete urine, use frequent frictions over the lumbar region with warm whiskey, spts. turpentine, and tinct. digitalis, which will often be found efficient in stimulating the kidneys to activity. Sometimes the administration of spts. turpentine in three to five drop doses every three to five hours, either in an emulsion or upon loaf sugar, may be needed to assist the frictions in hastening the action of the kidneys; indeed, it will always be found useful both in stimulating the kidneys and acting favorably upon the mucous membranes, both of the stomach and bowels and of the urinary passages.

I have now given in detail my convictions of the etiology and essential nature of the disease, together with my plan of treatment and the medicines used, which I would recommend as being fairly successful—certainly as much so, if not more, than under other and diverse plans which I have seen others practice—and withal it is so rational, and fulfills so completely every pathological condition and indication of treatment, even when not successful, for some must of necessity die, that the physician's mind is left with the composing reflection that he could have done nothing more to turn away the shafts of death and bring his patient back to health again.

I have concluded my paper without any reference to the dietary. Every physician will know that with such a broken-down state of the blood, and such debilitated and impoverished condition of the digestive and assimilating organs, the necessity for feeding is great, but that only the most nutritious and most easily digested and assimilable foods should be allowed, and they given in small portions, but often repeated, increasing the quantity, *pari passu*, with the improving strength.

As soon as the patient will bear moving, a dry, bracing atmosphere and a healthy location should be sought, and the patient advised not to return to his malarious home, for we should never forget the pertinacity of this poison. Says Dr. Hurley, " In fact, the poison of the worst forms of malaria seems to saturate the tissues and adhere to the constitution with as much tenacity as the poison of syphilis; for there is no period of an individual's life, after he has once had a bad attack of malaria, at which he may be said to have completely got over it."—*New Orleans Med. and Surg. Journal.*

ABSTRACTS.

THE VALUE OF ANTIPYRINE IN PUERPERAL FEVER (Dr. Paul F. Mundé, M. D., in the *New York Medical Journal*).—But I do not know whether the administration of antipyrine during puerperal septicæmia or peritonitis has become so general as the use of the remedy in internal medicine. I, for my part, certainly feel that its careful, systematic, and persistent employment has had a large share in enabling a number of the patients with puerperal fever whom I have seen in consultation to survive the disease. In making this assertion I do not undervalue the ice-water coil, or the stimulants and nutrients which were crowded into the patients almost *ad nauseam*. The manner of administering antipyrine as to dose, repetition, and vehicle, is, I think, of prime importance, if we would secure a rapid, satisfactory, and safe effect. To give it in large doses, say 20 to 30 grains, repeated every hour or two until 60 or 90 grains have been given, is, I am sure, exceedingly hazardous. The objection has been made that the reduction of temperature may be too rapid and intense, falling even below 98°, and that collapse may occur. This is perfectly true, and I once saw the temperature fall from 104° to 96.5° F. in a hospital case of pelvic peritonitis, after two doses of 20 grains each, within three hours.

I have always followed the rule never to begin with a larger dose than 20 grains (if the patient is strong), and to follow it up with 10 or 5 grain doses every half hour or hour until 20 grains more have been taken. Usually, and always if the patient's strength is below par, I begin with but 10 grains, and give five grains every half-hour until 20 more have been taken, which will make 30 grains within a little over two hours. The pulse is carefully watched, and any sign of flagging means discontinuance of the antipyrine and the use of stimulants. This same quantity or less is ordered to be repeated as soon as the temperature (taken in the mouth, rectum, or vagina) rises above 102°. Seldom have I found it necessary to order this quantity of 30 grains in divided doses to be given more than twice in the twenty-four hours; generally but once, usually toward evening. Once, however, for over two weeks, the patient's constantly recurring rise of temperature required the daily consumption of from 60 to 90 grains, until, finally, the temperature remained down, and recovery took place. All the patients were under the care of trained nurses, who were carefully instructed to take the temperature and pulse at regular intervals, and administer the antipyrine in strict accordance with their instructions and the effect of each dose. As soon as the temperature fell below 101°, as a rule, the remedy was discontinued. In this manner I never saw the least sign of collapse or excessive reduction of temperature (in the case above referred to the house surgeon gave the antipyrine in my absence), and I can report none but the happiest results from the drug. It was given either in solution with syrup and water, five grains to the tablespoonful, or in gelatin capsules (my favorite form), or, if the stomach was irritable, by suppositories or enema, in both of which latter forms it acted admirably. In some cases I found it necessary to give it hypodermically, which was readily feasible, as it is very soluble, one grain being dissolved in one minim of water.

In addition to the antipyrine, I always had the ice-water coil applied when the temperature rose and removed when it fell. And I often gave five-grain doses of quinine every three to four hours if the stomach could bear it, merely for its tonic properties. But I feel convinced that the quinine had but a small, and the ice water only a moderate, share in the recovery of the patients. Out [illegible] cases of puerperal septicæmia (nineteen) and puerperal [illegible] which I have seen in consultation during the past two years [illegible] using anripyrine systematically in this disease, only three [illegible] one of which developed chronic encysted peritonitis, to which the [illegible] succumbed five weeks after delivery. Surely this is not a large pro[illegible] especially when we consider that a consultant is often not called until [illegible] becomes very serious, perhaps actually hopeless, and when I state [illegible] one of these patients was actually moribund when I saw her.

ETIOLOGY OF PRURITUS PUDENDI.—In a paper read before the Cincinnati Academy of Medicine, September 20, 1886, on Pruritus Pudendi, Dr. E. S. McKee, under the head of etiology, writes as follows: *Predisposing Causes.*—Different diseases of the neighboring parts, vulva, vagina, urethra, uterus, etc. Pregnancy. general depreciation of the health, indolent, luxurious, and enervating habits, syphilis, gouty and rheumatic, lithiatic, neurotic, diabetic, tubercular, lymphatic, asthenic tendencies, Bright's disease, menopause.

Exciting Causes.—Irritating discharges from leucorrhœa, especially uterine, the flow of the menses, cancer, incontinence of urine, diabetes, gonorrhœa, diseases of the urethra, bladder, and kidneys, strongly acid or alkaline urine, irritating discharges, local inflammation and irritation of vulvitis, vaginitis, congestive eruptions, herpes, eczema, erythema, scabies parasites, pediculi pubes, oxyuris vermicularis, ascarides, masturbation, venereal warts, urethral caruncle, want of cleanliness, vulvitis, sexual excitement, and erection of the clitoris. It is also laid to a general wear and tear of the nervous system. Irritating matter is carried to every part of the body by the blood. Pain is elicited at certain elective points, one of which is the vulva. In some obviously inflammatory cases it is hard to say whether the neuroses or inflammation predominates. In many of the most painful of those disorders there is no obvious inflammation, and in others, when inflammation is obvious enough, the pain, though generally troublesome, is more endurable. Those cases which generally occur in women about the climacteric period are found generally in those who have a tendency to obesity and who often have eczema. It is frequently found in those young women who sit much and who are subject to emotional and other centric nervous influences. Barnes says, "There must be exaggerated centric irritability as well as an excentric irritation to produce marked forms of pruritus. This is why it is so marked in pregnancy." Many obstetricians confirm the observations of McClintock, that pruritus vulvæ is one of the earliest symptoms of cancer of the uterus.

MICROSCOPY AND PATHOLOGY.

THE BACTERIOLOGY OF WATER AND AIR.

It is well known that the atmosphere and water generally contain many forms of micro-organisms; but the conditions that are favorable to the growth of these low forms of life and the causes which lead to the development of toxic agents are a new field of investigation whose elucidation is a matter for future observation. Messrs. Crookes, Odling, and Tidy, in their official report on the persistence of bacterial life in water, have added to our store of facts so far as water is concerned. These observers have employed sterilized distilled water, in which a definite quantity (1 part in 150 of water) of peptone fluid, swarming with an active sporeless growth of the splenic fever bacillus, was introduced. After the lapse of two hours an artificial cultivation of the infected water resulted in an abundant and characteristic growth of the bacillus, from which fresh cultivations could be produced. The results after the expiration of three hours were uncertain, and when a longer time had elapsed no cultivation could be obtained. The water used by the experimenters was of greater nitrogenous contamination than Thames water, and therefore highly suitable for the growth of the bacillus; and yet after the expiration of six hours the bacillus appeared to have effaced itself. On the atmospheric side of bacteriology, we have the observations of M. Miquel made on the air around Montsouris. An increase in the number of bacteria in the air was observed to accompany a rise in the barometric pressure, and an augmentation also occurs in the summer months, though a sustained high temperature tends to lessen the number of bacteria. A low hygrometric state of the atmosphere was found to accompany the maximum number of bacteria, and a maximum number was also associated with a calm or slowly traveling wind. The greatest number of maxima occurred with a northeast wind, and the least with a southwest wind. The presence of a large amount of ozone in the atmosphere went side by side with a reduced number of microbes. The observations at Montsouris have been carried on for a period of five years, and it has been estimated that the average numbers of organisms in a cubic metre of air, during spring, summer, autumn, and winter respectively, are 495, 650, 380, and 260. February gave the lowest average, 165, and July the highest, 700. The atmosphere of Paris is altogether different, for the average number of organisms in a cubic metre of air taken from the Rue de Rivoli was 3,480, but the minimum and maximum occurred in February and July respectively, as at Montsouris. The number of organisms was very much lower in the year 1884 than in 1881, and this fact was associated with a greater efficiency in scavenging in 1884, and also with a lower death-rate from zymotic diseases. Dr. Miquel has also made a few observations on the atmosphere of London, only 240 bacteria being found in a cubic metre of air during the month of June. This comparative poverty of bacteria is attributed to the nearness of London to the sea, and to the moderate height of the houses not preventing the purifying influence of the wind. What a tremendous contrast the atmosphere of the ocean and mountain presents with that of the wards of the Hôpital de la Pitié in Paris; for the former never contains more than an average of one bacterium per cubic metre, whilst the latter has been known to hold in suspension as many as 97,000 organisms in a cubic metre of air.—*Lancet.*

THE GERM THEORY AND BACTERIA AS ETIOLOGICAL FACTORS. [Dr. L. B. Anderson in the *Southern Clinic.*]

It matters not how multitudinous and pervasive the supposed germs may be, all parties admit that they never germinate except in disorganized, degenerated, dead, or putrescent tissues or fluids. Another most important admission of the advocates of this theory is that bacteria are never found in healthy, living tissues or fluids. These two concessions, it seems to us, are sufficient to overthrow the whole theory. If germs do exist everywhere—that living organic matter can retain vital integrity, and yet can only become living, moving, self-subsisting entities in putrescent matter, then surely, without number and for ages, they may repose in a healthy body without the slightest deleterious effect or the production of a single living offspring. This surely is a demonstration plain that "germs" can never become a factor in the generation of disease. On the other hand, if perchance a living bacterium finds its way into healthy blood or tissue, it immediately dies from inanition, "and is cast off through the kidneys." Then they can only breed and live where disease already exists. And if they are the offspring and tenants of diseased matter only, and cease to live so soon as removed from it, how is it possible for them to be etiological factors? The negative of this question is a self-evident proposition, and requires no more demonstration than a "straight line is the shortest distance between any two points." If, therefore, germs cannot produce bacteria, and bacteria cannot live except in diseased or degenerated matter, why should a well person apprehend trouble from either? And should they be developed during the progress of disease, and even increase the potency of that disease, how is it possible *a priori* for them to become even the most infinitesimal factor in the transmission of that disease to a well person?

We are, however, confronted with a multitude of reported demonstrations, by Pasteur, Koch, and others, of the transmission or generation of disease by injecting bacteria into the living tissues of healthy animals, That such a result is an utter impossibility is demonstrable from their own testimony, viz.: "That bacteria, when introduced into healthy blood or tissues, speedily die and are cast off by the kidneys." However this may be, it still remains a fact that disease has followed such injections. Let us examine this. Remember that these injections are of cultured fluids, which have passed into sepsis or degeneration before the bacteria can be developed, and in which, only, can they live. Why attribute the morbid result to the living bacteria, which "die and are cast off by the kidneys" so soon as removed from the putrid fluid, when the minutest quantity of septic matter is often a potential agent in the production of frightful disease?

During the cultivation of bacterial germs in organic matter, this matter passes into a state of fermentation, and hence of decomposition, before living sporules, either animal or vegetable, appear. While these infusoria seem to develop *pari passu* with the progress of the decomposition, day after day whole generations of bacteria die and pass into decomposition, adding materially to the septic quality of the fluid. A chemical analysis of this fluid has disclosed the presence of organic alkaloids, or ptomaines, as called by Selmi, which often possess the most poisonous properties, and produce the most disastrous effects on living animals. (See article in September number GAILLARD'S MEDICAL

JOURNAL on Ptomaines, by the writer.) As, therefore, neither bacterial germs nor bacteria themselves can live, much less produce disease, in healthy tissues—and the culture fluid, swarming, if you please, with living and dead bacteria, is septic, we have a substantial, rational, demonstrable etiological factor, which may produce all the morbid developments which have been so irrationally attributed to bacteria. * * *

Despite the contradictory views and assertions of bacteriologists, one fundamental fact remains attested by all, viz: "That bacteria are never found apart from degeneration of organic matter." And having demonstrated, as far as facts, philosophy, and logic can demonstrate any proposition, that they can not be the cause of degeneration, the question arises, Why, then, are they so universally associated with it? A discussion of this question would lead us into a field full of conjecture and uncertainty, but rich in thought and strewn with important and unsolved problems. The first subject which presents itself for solution just here is, What is life; whence its origin? Is it like heat, light, electricity (and I believe sound), an entity, obscured or dormant under certain circumstances, apparent and efficient under certain conditions? When certain organic combinations are formed for the proper manifestation of this principle, may not this be the simplest and lowest form of animal or vegetable life, even the protoplasm of bacteria? And as this organization changes, so as to alter its relations to this vital manifestation, may it not depart, as heat leaves a burning body so soon as oxygen is withdrawn? And, as all the great elements in nature are subservient to the use of man—the image of his great Creator—as well as all the fowls, fishes, and animals, may not bacteria be designed to play an important part in the great role of benefactions, whereby putrescent and septic matters, so deleterious to man, may be consumed? May not the bacillus tuberculosis, which is so generally found in connection with tubercle, and *never before it*, be a beneficent benefactor sent to destroy the deleterious properties, either physical or chemical, of that tubercle, break down its organization, and bring it into a state to be ejected from the system? And as they can never touch the living tissues and live, may not bacteria consume the putrescent matter of degenerating tubercles, thereby protecting the system from sepsis and themselves die and be eliminated?

SANITARY.

CASES OF MILK POISONING.—During the past summer considerable excitement was created at Long Branch by the sudden development at several hotels of a number of cases of severe illness with all the symptoms of acute poisoning, and the distribution of the cases speedily caused suspicion to attach to the milk as the vehicle. In the *Medical News* of September 25, a study of this epidemic and its causes by Dr. W. K. Newton and Mr. Shippen Wallace is presented. After elaborate arguments by both gentlemen, they state that they are justified in assuming, after weighing well all the facts ascertained in moderate impression for the purpose of antagonizing the malarial poison, and giving tone to the nervous centres.

The quinine, if the stomach will not tolerate it, should be given hypodermically, which is the preferable plan on account of the danger of again setting up nausea and vomiting. As soon as the function of the liver is measurably or appreciably established, and enough quinine has been introduced in the system to make its physiological effects manifest, commence to give the muriated tinct. of iron in full doses, twenty to thirty drops every four hours, with a view of toning up the debilitated blood vessels, reconstructing and vitalizing the hæmoglobin and the red-blood corpuscles, and thus restoring the normal and vital condition of the blood. If the kidneys should fail to excrete urine, use frequent frictions over the lumbar region with warm whiskey, spts. turpentine, and tinct. digitalis, which will often be found efficient in stimulating the kidneys to activity. Sometimes the administration of spts. turpentine in three to five drop doses every three to five hours, either in an emulsion or upon loaf sugar, may be needed to assist the frictions in hastening the action of the kidneys; indeed, it will always be found useful both in stimulating the kidneys and acting favorably upon the mucous membranes, both of the stomach and bowels and of the urinary passages.

I have now given in detail my convictions of the etiology and essential nature of the disease, together with my plan of treatment and the medicines used, which I would recommend as being fairly successful—certainly as much so, if not more, than under other and diverse plans which I have seen others practice—and withal it is so rational, and fulfills so completely every pathological condition and indication of treatment, even when not successful, for some must of necessity die, that the physician's mind is left with the composing reflection that he could have done nothing more to turn away the shafts of death and bring his patient back to health again.

I have concluded my paper without any reference to the dietary. Every physician will know that with such a broken-down state of the blood, and such debilitated and impoverished condition of the digestive and assimilating organs, the necessity for feeding is great, but that only the most nutritious and most easily digested and assimilable foods should be allowed, and they given in small portions, but often repeated, increasing the quantity, *pari passu*, with the improving strength.

As soon as the patient will bear moving, a dry, bracing atmosphere and a healthy location should be sought, and the patient advised not to return to his malarious home, for we should never forget the pertinacity of this poison. Says Dr. Hurley, "In fact, the poison of the worst forms of malaria seems to saturate the tissues and adhere to the constitution with as much tenacity as the poison of syphilis; for there is no period of an individual's life, after he has once had a bad attack of malaria, at which he may be said to have completely got over it."—*New Orleans Med. and Surg. Journal.*

ABSTRACTS.

THE VALUE OF ANTIPYRINE IN PUERPERAL FEVER (Dr. Paul F. Mundé, M. D., in the *New York Medical Journal*).—But I do not know whether the administration of antipyrine during puerperal septicæmia or peritonitis has become so general as the use of the remedy in internal medicine. I, for my part, certainly feel that its careful, systematic, and persistent employment has had a large share in enabling a number of the patients with puerperal fever whom I have seen in consultation to survive the disease. In making this assertion I do not undervalue the ice-water coil, or the stimulants and nutrients which were crowded into the patients almost *ad nauseam.* The manner of administering antipyrine as to dose, repetition, and vehicle, is, I think, of prime importance, if we would secure a rapid, satisfactory, and safe effect. To give it in large doses, say 20 to 30 grains, repeated every hour or two until 60 or 90 grains have been given, is, I am sure, exceedingly hazardous. The objection has been made that the reduction of temperature may be too rapid and intense, falling even below 98°, and that collapse may occur. This is perfectly true, and I once saw the temperature fall from 104° to 96.5° F. in a hospital case of pelvic peritonitis, after two doses of 20 grains each, within three hours.

I have always followed the rule never to begin with a larger dose than 20 grains (if the patient is strong), and to follow it up with 10 or 5 grain doses every half hour or hour until 20 grains more have been taken. Usually, and always if the patient's strength is below par, I begin with but 10 grains, and give five grains every half-hour until 20 more have been taken, which will make 30 grains within a little over two hours. The pulse is carefully watched, and any sign of flagging means discontinuance of the antipyrine and the use of stimulants. This same quantity or less is ordered to be repeated as soon as the temperature (taken in the mouth, rectum, or vagina) rises above 102°. Seldom have I found it necessary to order this quantity of 30 grains in divided doses to be given more than twice in the twenty-four hours; generally but once, usually toward evening. Once, however, for over two weeks, the patient's constantly recurring rise of temperature required the daily consumption of from 60 to 90 grains, until, finally, the temperature remained down, and recovery took place. All the patients were under the care of trained nurses, who were carefully instructed to take the temperature and pulse at regular intervals, and administer the antipyrine in strict accordance with their instructions and the effect of each dose. As soon as the temperature fell below 101°, as a rule, the remedy was discontinued. In this manner I never saw the least sign of collapse or excessive reduction of temperature (in the case above referred to the house surgeon gave the antipyrine in my absence), and I can report none but the happiest results from the drug. It was given either in solution with syrup and water, five grains to the tablespoonful, or in gelatin capsules (my favorite form), or, if the stomach was irritable, by suppositories or enema, in both of which latter forms it acted admirably. In some cases I found it necessary to give it hypodermically, which was readily feasible, as it is very soluble, one grain being dissolved in one minim of water.

In addition to the antipyrine, I always had the ice-water coil applied when the temperature rose and removed when it fell. And I often gave five-grain doses of quinine every three to four hours if the stomach could bear it, merely for its tonic properties. But I feel convinced that the quinine had but a small, and the ice water only a moderate, share in the recovery of the patients. Out the investigation, that the sickness at Long Branch was caused by poisonous milk, and that the toxic material was tyrotoxicon. The production of this substance was no doubt due to the improper management of the milk—that is, too long a time was allowed to elapse between the milking and the cooling of the milk, the latter not being attended to until the milk was delivered to the hotel; whereas if it had been cooled immediately after it was drawn from the cows fermentation would not have ensued, and the resulting material—tyrotoxicon—would not have been produced.

Cold Bathing.—The use of cold water as a bath for ordinary health purposes—we are not speaking of its use for the strictly medical purpose of reducing the temperature of the body in certain states of disease—is purely reactionary. The cold bath is only useful, or even safe, when it produces a rapid return of the blood to the surface immediately after the first impression made, whether by immersion or affusion. The surface must quickly redden, and there must be a glow of heat. If these effects are not rapidly apparent, cold bathing is bad; and no such effects are likely to be produced unless the circulation be vigorous and both the heart and blood-vessels are healthy. Great mistakes are made, and serious risks are often incurred, by the unintelligent use of the cold bath by the weakly or unsound. Moreover, it is necessary to bear in mind that there is seldom too much energy to spare after middle age, and it is seldom expedient for persons much over forty to risk cold bathing. We would go so far as to say that no one above that age should use the tub quite cold unless under medical advice. It is possible to be apparently robust and, for all the average purposes of life, healthy, and yet to have such disabilities arising out of organic disease or weakness as to render the recourse to heroic measures, even in the matter of cold bathing, perilous.—*Lancet.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme.............	equal to	1-65th	grain.
1 centigramme............	"	1-6th	"
1 decigramme.............	"	1½	grains.
1 gramme	"	15	"
1 decagramme.............	"	150	"
1 hectogramme............	"	1,465	"
1 kilogramme.............	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre.............	equal to	1-1,000th	metre.
1 centimetre............	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches
1 decametre	"	10	metres
1 hectometre.............	"	100	"
1 kilometre	"	1,000	"
1 myriametre............	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre.........	equal to	15	troy grains	water.
1 centrilitre......	"	150	"	"
1 decilitre...... ..	"	1,500	"	"
1 litre............	"	(1 qt.) 15,000	"	"
1 decalitre........	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.....	equal to	75-100th pint, or 6,067 22-100ths minims
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl drachm water at 60 deg. F.......		56 96-100ths grains.
1 fl oz. " "		455 69-100ths "
1 fl gallon " "		231 cubic inches.
1 fl pint " "		28 87-100 "

TEMPERATURES.

Centigrade.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

Reaumur.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, VinOrdinaire 10.

NEW REMEDIES (Mr. J. V. Shoemaker in the Address in Medicine before the 37th Annual Session of the Medical Society of Pennsylvania).—While no brilliant discovery like that of cocaine has been made in the field of therapeutic research since our last meeting, several valuable additions have been made to our armamentarium and our confidence in many older agents has been increased. Alveloz, a South American remedy for cancer, has been tested in a few cases with apparently good results. The pain has been mitigated, the discharge lessened, the fetor removed, and the ulcerative process checked. Dr. Smith Townsend has reported a case of lupus of the face of forty years' standing which had resisted all previous treatment, but was cured by a few applications of alveloz.

The peroxide of hydrogen, which is simply water impregnated with an excess of oxygen, has been found to be a valuable antiseptic when used as an injection in leucorrhœa, gonorrhœa, cystitis, and otorrhœa, and as a local application in diphtheria, foul ulcers, and fistulous tracts.

Antiseptic inhalations have long been used with benefit in whooping-cough and bronchorrhœa, as well as in phthisis. Among those which are now regarded as especially valuable are inhalations of creosote, turpentine, iodine, eucalyptus, benzoic acid, and carbolic acid.

Rhus aromatica, which was recommended years ago by Dr. N. S. Davis as a valuable remedy for incontinence of urine, is now coming into general use for that annoying complaint.

M. Caulet has directed attention to the value of the cold foot-bath in insomnia and the various disorders dependent upon cerebral congestion.

Thallin, which was introduced as the ideal antipyretic, has been found to be more unreliable and dangerous than either antipyrin or kairin.

Syzygium jambolanum (jambol) has been recommended as a specific for diabetes. Clacius employed it in several cases, all of which exhibited marked improvement in a very short time, but further trial will be necessary to determine its value.

Jamaica dog-wood (piscidia erythrina) has been found to be a valuable sedative and hypnotic, and has the advantage of not being followed by constipation and nervous depression.

Hypnone and urethan also possess valuable hypnotic qualities, but their poisonous action upon the lower animals demands caution in their employment upon man.

Cascara sagrada has been ascertained to be an efficient tonic and laxative. It promotes the appetite, assists digestion, and overcomes constipation without producing any unpleasant effects whatever, and deserves to be admitted into the United States Pharmacopœia.

Dr. F. T. Paine has directed attention to the value of salix nigra in ovarian neuralgia, dysmenorrhœa, and all irritative conditions of the genito-urinary organs.

Dr. Tovar, of Cuba, has stated that parthenine, the active constituent of partheninum hysterophorus, possesses marked value as an antipyretic and antiperiodic. The plant is used by the natives of Cuba as a substitute for quinine, to which it appears to be only slightly inferior. Its qualities deserve further investigation.

According to Korab and others, helenina, the active principle of inula helenium (elecampane), is a powerful antiseptic. A few drops of the solution of helenina immediately killed the organisms in ordinary infusions and proved fatal to the bacilli of tuberculosis.

It is recommended in cholera, cholera infantum, malarial fever, and all the zymotic diseases, and may be substituted with advantage for carbolic acid in all preparations for external use.

Hyoscine has been thoroughly investigated by Dr. H. C. Wood and others, and found to be a potent sedative and hypnotic, and invaluable in the treatment of many disorders of the nervous system. As its action is prompt, and the susceptibility of individuals varies, the initial dose should not exceed gr. 1-96.

Hamamelis Virginiana has been somewhat neglected by American therapeutists, but European physicians who have employed it believe it to be without a superior as an astringent and hæmostatic. It has been used with remarkable benefit in menorrhagia, hæmoptysis, hæmophilia, intestinal hemorrhage, painful hæmorrhoids, purpura, and varicose veins.

Nitro-glycerine has retained its position as the remedy *par excellence* for angina pectoris and chronic interstitial nephritis. It is also effective in the treatment of shock, opium poisoning, cardiac asthma, cerebral hemorrhage, and in failure of the heart's action during the administration of chloroform.

Strophanthus hispidus, a new remedy which has been introduced by Professor T. R. Fraser, promises to take the first rank as a cardiac tonic and stimulant.

According to M. Germain Sée, sparteine, the active principle of spartium scoparium, the ordinary broom-plant, is also a powerful cardiac tonic similar to digitalis and convallaria, but more prompt in its action and more durable in its effects. Broom has long been known to be a valuable tonic diuretic..

Liebreich, to whom we are indebted for the discovery of chloral, has called attention to the value of lanolin as a basis for ointments. Lanolin is an animal fat derived from wool and other keratin bearing tissues. It is not a panacea. It will not answer to employ it in all cases of skin disease, but it is readily absorbed, and possesses many advantages over the materials ordinarily employed as the basis for ointments. Lewinin, a resinous extract obtained from the root of piper methysticum, has been ascertained to be a local anæsthetic of considerable value, but not equal to cocaine. Hydrastis and its alkaloid, hydrastine, have been employed in dyspepsia, melancholia, neurasthenia, and various forms of skin diseases, with beneficial results. Rothe has ascertained that urtica dioica, the stinging nettle, possesses valuable hæmostatic properties. Boldo has been tested by several distinguished French clinicians and found to be a valuable hypnotic and soporific. Pyridine, one of the constituents of tobacco smoke, has been introduced for the treatment of asthma, but does not seem to possess any advantages over the remedies usually employed.

Terebene, a derivative of oil of turpentine, has been investigated by Murrell and found to be especially valuable in the treatment of winter cough, bronchorrhœa, and other forms of sub-acute and chronic bronchitis. It appears to have a sedative as well as a stimulating effect upon the mucous membrane of the respiratory tract, allaying irritation and assisting expectoration.

Attention has been directed to the value of osmic acid administered hypodermically in obstinate cases of sciatica. Sedum acre has been employed in diphtheria with apparent benefit. Ichthyol has been found effective as a local application in chronic eczema and psoriasis, pruritus, and acute and chronic rheumatism. Its value is due to the large percentage of sulphur which it contains.

Euphorbia pilulifera has been recommended for asthma. Salicylic acid has been found useful in the treatment of diarrhœa. Large doses of sulphur have been asserted to be curative in dysentery. Caffeine has been thoroughly studied, and is believed to be but little, if at all inferior to digitalis as a diuretic and cardiac stimulant. Its effects are less durable, but its action is more prompt and devoid of the dangers of digitalis. Renewed attention has been given to the subject of larvage in various gastric disorders and to the efficacy of oxalate of cerium in large doses as a gastric sedative. Arsenic has been found to be of especial value in the treatment of pernicious anæmia and other wasting diseases.

USE OF FRESH MILK IN THE TREATMENT OF ACUTE ARSENICAL POISONING.—In the Virginia *Medical Monthly* Dr. Joseph Jones, of New Orleans, urges upon the attention of the profession the great value of fresh milk, administered in large and often-repeated doses, in all cases of irritant poisonings. He has found fresh milk of especial value in the treatment of acute arsenical poisoning, and cites three instances illustrating this. The third of these is as follows: On the first day of June, 1882, I was summoned early in the morning to visit some members of the family of a neighbor who had been taken violently ill after drinking some *black coffee*. Examination of the premises showed that a large quantity of white arsenic (arsenious acid) had been placed in the coffee mill and ground up with the coffee. I immediately administered large quantities of fresh milk, followed by ipecac and warm water. Profuse and repeated vomitings were thus excited, and the stomachs were washed out with the warm milk and warm infusions of ipecac. As soon as the nausea and vomiting had ceased the bowels were opened with castor oil. The patients were then confined to bed and nourished with milk and lime water—three parts of fresh cow's milk to one part of lime water. Although the patients suffered extreme agony, and were greatly prostrated from the poisonous and irritant effects of the arsenic, they one and all recovered.

The milk, he says, dilutes the poison, encloses it in its coagula, sheathes the inflamed surface of the mucous membrane, and, when the stomach is capable of absorption and digestion, forms an aliment of the greatest value.

RUDISCH'S SARCO-PEPTONES.—The value of beef peptones in various conditions in which the digestive powers are impaired is now too well known to need any comment, and one of the best preparations in which these are presented to the profession and the public is undoubtedly the Rudisch Company's Sarco-Peptones. Dr. Arthur Hassell, of London, the well-known authority on dietetics, and author of the standard work, "Food and its Adulterations," in giving an analysis of it says: "It will be seen from the above results that this preparation contains not only the extractive and mineral matters present in the ordinary extracts of meats, but also a large proportion of the albuminous matter of the beef, in a peptonized or predigested form. It is, therefore, nutritious and easily assimilable." Among the advantages claimed for it are the large percentage of peptones, besides other nitrogenous constituents which it contains, its absolute purity, its guaranteed uniformity, its palatability, and its perfect solubility in water.

LOWELL'S CAULOCOREA IN DEBILITY AND UTERINE DISORDERS.—Dr. Elias Wildman, of Yardley, Pa., writes: I have used Dr. Lowell's *Caulocorea* with very good success in cases of general prostration, with pain in top of head, back (lumbo-sacral region), dragging sensation in loins, weakness and unsteadiness of limbs, loss of appetite, etc., etc., and would like to call my fellow practitioners' attention to this worthy preparation.

In a severe case of habitual abortion from a generally debilitated condition, there being no trace of specific disease, I also used it with success.

In the case of a lady suffering from leucorrhœa and pruritus vulvæ, the usual remedies, such as quinia, strichnia, iron, and astringent injections, proved unavailing, and the patient could obtain no permanent relief until I placed her upon caulocorea, with the assistance of which she has gradually regained her health. She has now gained some ten pounds in weight, and states that she feels quite well.

I have employed the preparation in many other cases of uterine disorders of various kinds with excellent results, and feel confident that if others will give it a thorough trial in similar cases they will not be disappointed in its effect.

CORROSIVE SUBLIMATE IN DIPHTHERIA.—Dr. Werner, medical officer to a circumscribed factory population of about two thousand near Narwa, on the Gulf of Finland, writes in the *St. Petersburger Medicinische Wochenschrift*, describing the satisfactory results he has obtained in diphtheria by treatment with perchloride of mercury internally, combined with icthyol inunctions. The disease is very frequent and fatal in the locality, he having attended during the last six years ninety cases, the average mortality of which was between sixty and seventy per cent., the majority succumbing from general weakness when the local affection was passing off or after it had quite disappeared. Last year the type was peculiarly severe. In July, August, and September, eleven cases occurred, of which no less than nine proved fatal. From the end of September to the present time, however, during which period there have occurred seventeen cases, all of which were treated with perchloride of mercury, and many of which were very severe, there were only two fatal cases, neither of which was seen till a few hours before death.

The author's method of administration is as follows: For young children he dissolves a quarter of a grain of the perchloride in four ounces of water; for children of six or seven, half a grain in six ounces of water; and for adults three-quarters of a grain in eight ounces of water. This solution is given to the patients while they are awake every twenty or thirty minutes, in measured doses, so arranged that the quantities made up shall last from twenty to twenty-four hours—*i. e.*, about half a drachm in the case of young children, and a drachm in that of adults. When a good deal of sleep is obtained, larger doses are given at longer intervals. As a rule only milk is allowed as nourishment. If considerable pyrexia exists, an enema of from ten to thirty grains of antipyrin, according to the age of the patient, is given, the rectum having been previously cleared out. Externally, icthyol is diligently rubbed in over the swollen glands three or four times a day, the fingers being wetted with water when dry to permit of the rubbing being continued for some time. For the first two days of this treatment the local affection usually undergoes no improvement, but on the third day it begins to diminish and the general condition becomes better, the appetite increasing, and the children regaining their wonted spirits. In no case did the author meet with the extreme debility which was frequent in cases treated by pilocarpine, even when the local affection was decreasing. As the patients approached convalescence the medicine was diminished, so that more than six bottles were never required. Complications never occurred, though three of the patients had previously had scarlatina.—*Lancet.*

THE ADMINISTRATION OF TEREBENE.—The following formula works perfectly, giving a lozenge of good size, holding the terebene satisfactorily, and possessing a taste far from unpleasant. Take of

Terebene, ʒiijss;
Acacia, ʒiij;
Water, ℥ij;
Powdered Sugar, ℥ij;
Powdered tragacanth, ℥ij.—Make 100 lozenges.

With the terebene, acacia, and water make, according to article, an emulsion, which add to the powdered sugar and tragacanth, previously mixed together; beat into a mass, and make into lozenges. The emulsion form, for administration, meets every requirement save one. The taste of terebene is pretty generally considered bad, and in emulsion its peculiar pungency most successfully salutes and thrusts itself upon the gustatory nerve. Pharmaceutically, however, the emulsion is a success, the following proportions, if observed, furnishing as fine a representative of that class as can be desired:

Terebene, ʒiv;
Powdered acacia, ʒiij;
Water, to make ℥ij;
Syrup of ginger, ℥j.

First rub thoroughly together the acacia and terebene in a dry mortar, add all at once the water, rubbing rapidly until the crackling sound appears, then add the remaining water and the syrup of ginger. This emulsion is not perfectly white, owing to the syrup of ginger, which is added preferably to simple syrup because of its flavor and pungency, which somewhat mitigate the taste of the terebene. Oil of peppermint might be added to this emulsion with the effect of almost entirely covering up the terebene taste, but unfortunately there are many who dislike peppermint intensely, and hence it cannot be generally used. Oil of lemon improves this emulsion little, if it all, and hence cannot be recommended.—*Therapeutic Gazette.*

BIOGRAPHY.

DR. JAMES ANDERSON.

Dr. James Anderson, for over sixty years a practicing physician in this city, died at his residence in University Place, October 7. Although in his eighty-ninth year, he was in his usual health and vigor until October 4, when he was attacked with cholera morbus, and gradually sank until his death. He was born at the Battery on February 21, 1798, and was descended from an old Dutch family. He received his early education in the city schools, and began the study of medicine under Dr. David Hosack. In 1821 he was graduated from the College of Physicians and Surgeons, and began to practice medicine in the city. He still continued his connection with Dr. Hosack, and for a number of years examined all the latter's students. He was one of the early presidents of the New York Academy of Medicine, and at one time was president of the State Medical Association. He was also the founder and first president of the Physicians' Mutual Aid Society. For the last fifty years he has been active in the management of the Collegiate Dutch Reformed Church, and he always took a great interest in the affairs of Rutgers College and the theological school connected with the college. He was also the consulting physician of the St. Nicholas Society, and was prominently identified with all the old Dutch interests in this city. In early life he married Miss Euphemia Anthony, daughter of Nicholas Anthony, whose ancestors came to this city in 1668. Three children survive him, two sons, Dr. James H. Anderson and Mr. William Anderson, and one daughter, the widow of the late Major Loomis.

DR. WM. L. BARRET.

Wm. Lee Barret was born in St. Louis in 1843. He received his preliminary education in the Washington University, of this city, and attended a course of lectures in the St. Louis Medical College, and then went to New York, graduating at the Bellevue Hospital College in 1866, after which he spent three years in the office of Dr. T. Addis Emmet, acting as his assistant. Having returned to St. Louis, he was appointed health officer, and discharged the duties of that position very efficiently for several years. Though engaged in general practice, he gave attention especially to obstetrics and gynæcology, which latter more and more fully occupied his time and attention. For several years he has been connected with the St. Louis Medical College as Lecturer of Diseases of Women, and at the recent re-organization of the faculty of that institution he was appointed Professor of Gynæcology. He was a successful teacher, and thoroughly won the esteem of his pupils. As a practitioner he was able and skilful, and by his kindly, sympathetic manner won not only the respect but the affection of his patients. He was one of the staff of St. Luke's Hospital, and did very much to promote the success of the institution. —*St. Louis Courier of Medicine.*

DR. WM. H. DUDLEY.

Wm. Henry Dudley, President of the Collegiate Department of Long Island College Hospital, died at his home in Brooklyn, on the 8th of October. The immediate cause of his death was pulmonary hemorrhage occurring during an attack of broncho-pneumonia, although his constitution was undermined by diabetes, from which he had been suffering for over two years. Dr. Dudley was born in Ireland in 1811, and graduated from the Royal College of Physicians and Surgeons in Dublin in 1833. Removing to the West Indies, he was made Health Officer at Port Maria, Jamaica, and was also elected a Fellow of King's College there. In 1841, Dr. Dudley came to New York and received a diploma from the College of Physicians and Surgeons in this city. He soon removed to Brooklyn, however, where his life-work has been the building up of the Long Island College Hospital. He was instrumental in its organization in 1859, contributing liberally of his private means and time to make it a success;

and this is said to have been the first adoption in this country of the plan, since so generally in vogue, of connecting a hospital directly with a medical college for the purposes of clinical instruction. Dr. Dudley was, besides, one of the physicians of St. John's Hospital, and had a large private practice in Brooklyn, where he was greatly beloved for his many genial qualities. He was twice married, his first wife being Miss Emily M. Fitz Gibbons, of Jamaica, West Indies, and his second, Miss Charlotte G. Ducknitz, of Brooklyn, and two sons and a daughter survive him.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

SECTION OF OBSTETRIC MEDICINE AT THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT BRIGHTON.

Dr. Robert Barnes read a paper introductory to a discussion on

THE ALTERNATIVES TO CRANIOTOMY,

the concluding portion of which was as follows:

Convulsions.—Not many years ago, it was widely believed that, in the uræmic convulsions of pregnancy, the urgency to deliver was so imperative that it was held necessary to effect delivery by the quickest method—that is, by craniotomy. Now that we can control the convulsions by chloroform, or nitrite of amyl, and can dilate the passages by the water-bags, the plea for craniotomy is gone. Chloroform, nitrite of amyl, elastic dilatation, turning, or forceps, constitute the proper alternative.

Hemorrhage.—Until within recent years, no emergency in obstetrics was held to render instant delivery more imperative than the so-called accidental and unavoidable hemorrhage; and the *accouchement forcé* was too apt to imply craniotomy. In some cases of accidental hemorrhage, it may still be justifiable to perforate—the more so as the child is likely to have perished. But in placenta prævia, in which my experience has been large and successful, I have no hesitation in saying that craniotomy can rarely or ever be justified. Since the demonstration of the true theory of placenta prævia, and the clinical proof that the hemorrhage may almost always be arrested by puncture of the membranes, by detachment of the placenta from the lower zone of the uterus, by dilating the cervix by the water-bags, and extracting the child, if necessary, by forceps, or turning by the bi-polar method, there can be no excuse for craniotomy or other method of violent delivery.

When there is obstruction to the labor, the child being dead, there is no object in seeking an alternative to craniotomy.

Embryotomy, as by decollation, is especially indicated in cases of impaction of the child's body in shoulder-presentations, the child being dead, or turning hazardous.

A case in which there is no proper alternative for craniotomy is that where obstruction is due to excessive size of the child's head from hydrocephalus or other deformity. Embryotomy is in like manner indicated where the child's abdomen is of excessive size from dropsy, or enlarged liver or kidney.

In conclusion, let me submit the following summary of the arguments set forth:

1. The legitimate aspiration and tendency of science is to eliminate craniotomy on the living and viable child from obstetric practice.

2. The advance of hygienic rule, the improvements in the forceps, in turning, in the induction of labor, and in obstetrics generally, have materially curtailed the field within which craniotomy can be justifiable.

3. In the most extreme degrees of pelvic distortion, where delivery *per vias naturales* can only be effected with doubtful success to the mother, Porro's operation is the legitimate alternative for craniotomy, it being understood that the opportunity of inducing abortion has gone by.

4. In less advanced degrees of pelvic contraction, but still incompatible with the delivery of a living child *per vias naturales*, the opportunity of inducing abortion having gone by, but in which craniotomy would effect delivery with strong presumption of safety to the mother, the Cæsarean section may be a proper alternative for craniotomy. This is the most debatable point.

5. In the minor degrees of contraction, say from three inches to three and a half or three and three-quarters inches, the opportunity of inducing labor having gone by, the far greater safety to the mother obtained by craniotomy, and the prospect of living children in future pregnancies by inducing labor, make craniotomy the proper course to adopt.

6. In other emergencies than deformity, as in obstructed labor from ovarian tumors, the alternative to craniotomy is to remove the tumor.

7. In cases of immovable tumors, Porro's operation is the proper alternative.

8. In rupture of the uterus, the child being delivered or not, Porro's operation is the proper alternative. There the interests of mother and child coincide.

9. In cases of disease or tumors of the uterus obstructing delivery, Porro's operation is the proper alternative.

10. In atresia of the cervix or vagina, Cæsarean section or craniotomy may be necessary; but incisions and gradual dilatation will more frequently be the proper alternatives.

11. When obstruction is due to hydrocephalus or dropsy in the child, embryotomy or tapping is indicated. When the child is dead, embryotomy is indicated, and decollation when the child is impacted, and turning is hazardous.

12. In convulsions and hemorrhages, the proper alternatives for craniotomy are found in the more scientific methods of conducting labor under these complications.

Lastly, the dream of Tyler Smith, the abolition of craniotomy, will be fully realized only when hygiene shall have triumphed over disease and deformity.

Dr. R. J. KINKEAD, Professor of Obstetrics in Queen's College, Galway, read a paper on

CRANIOTOMY AND CÆSAREAN SECTION,

in which he said:

In dealing with any or all the alternatives to craniotomy, the principal question that attracts attention is this: Is it probable that the maternal mortality can be reduced to the level of that following craniotomy?

If, as I believe it can be, the mortality after the Cæsarean section is to be reduced to the level of that of ovariotomy, the same care must be taken in every step of the one that experience has shown to be needful in the other.

If the operation is performed before the vital powers are weakened and he uterine tissues injured by protracted parturition; if it is done with the means at our disposal for controlling hemorrhage, with the continuous suture, with thorough cleansing of the abdominal cavity, with scrupulous cleanliness and care in every stage, I have no doubt but that it would be as safe for the mother as craniotomy, and that, considering the very high probability of saving the child, it ought to have a prior place to the only operation sanctioned by surgery, which is undertaken with the avowed object of destroying life.

Finally, I would point out that, to reduce the bulk of the child, or to extract its mutilated remains, though a pelvis of 2½ or less conjugate, is an operation of extreme difficulty, one occupying a very considerable period of time, and needing for its successful accomplishment, as far as the mother is concerned, very great experience and an amount of manual dexterity hardly to be acquired outside of large cities; while, on the other hand, the Cæsarean section is an easy operation, capable of successful performance by any surgeon of ordinary skill.

The *British Medical Journal* gives the remainder of the discussion as follows:

Dr. Lusk (New York) believed that, under 2¾ inches, namely below the limit where premature labor and version were available, modern methods of Cæsarean section were preferable to craniotomy. Cæsarean section always held out promise when performed under favorable circumstances. The weak side was always the gaping of the uterine wound. Porro's great merit consisted in doing away with this danger by the removal of the organ. But a still greater work was the reawakening of the professional interest in the Cæsarean operation. The result was the wonderful success of Leopold and other

Germans with the uterine suture of Sänger. This method, according to the latest reports, showed, in twenty-six cases, nineteen recoveries and seven deaths. In all the latter, the operation was performed under circumstances well-nigh hopeless. Cæsarean section, modified by Sänger, Porro's operation and that of Dr. Thomas, were not rival but supplementary operations. Sänger's operation was done after partial dilatation of the cervix, in early cases, and when the patient was in good condition; Porro's operation, where prolonged labor had ended in impaired integrity of the uterine tissue; Thomas's operation, after dilatation of the cervix when the head was arrested at the brim, and there was ulceration of the uterus above the largest circumference of the child's head.

Dr. Wilson (Baltimore) said that, in a large obstetric practice of thirty-six years, he had not performed one craniotomy in the last thirty years; and he believed the day was not far distant when craniotomy would be a very rare operation in obstetric surgery. With the advancements made within the last few years in abdominal surgery, and the successes obtained in the same, he was satisfied that the Cæsarean section, or Porro's operation, would very soon take the place of craniotomy in obstetric practice.

Dr. Swayne (Bristol) stated that, however one might sympathize with Dr. Tyler Smith and others in their attempt for the total abolition of craniotomy, yet there were many cases, where the conjugate diameter was between three and four inches, in which craniotomy became necessary as a last resource. For instance, turning or the forceps were tried and failed, and then craniotomy had to be performed. The child, for instance, was turned, and the head was arrested in the pelvic brim. The child died from pressure on the cord, and craniotomy was necessary. Also, where a child was undoubtedly dead, craniotomy was not only justifiable but proper.

Mr. Lawson Tait (Birmingham) said that he could add but little from the obstetric side of the question; but, from the surgical aspect, he felt certain that the argument, that such operations as that of Porro would fall largely, of necessity, into the hands of men inexperienced in abdominal surgery, was not of much value; for exactly the same thing was true of bad cases of craniotomy; and he felt certain, of the two classes, under similar circumstances, the resulting advantages would be largely on the side of amputation of the uterus.

Dr. More Madden (Dublin) congratulated the Association on having obtained the interesting and able statements which Dr. Lusk had made. In a long obstetric experience in hospital and private practice, and as an obstetric teacher, he had not himself been able to recognize the necessity of craniotomy, and he had never resorted to or countenanced it. He was aware that, in Dublin, cases of labor complicated by great pelvic deformity were much more exceptional than in other places where rickets were prevalent. In cases of difficult or complex labor, in which craniotomy, which he regarded as a murderous and horrible operation, had been recommended, he had been fortunate enough to save life by one—or attend the various improved methods of artificial delivery now available—namely, either by the induction of premature labor; by the different modifications of Porro's operation; or by the Cæsarean section; or by the timely and judicious employment of the long forceps, or version—whichever method might be adopted, it should, he said, be borne in mind that the primary object of the obstetric art was to deliver living children from living mothers, with safety to both.

Dr. Neville (Dublin) said he could not understand Dr. More Madden's statement that during a long experience he had never found craniotomy necessary, though he had only once performed any form of delivery through the abdominal walls; namely, one Cæsarean section. Dr. Lusk had rightly appreciated and stated the merits of the question, and he (Dr. Neville) agreed with him in preferring Sänger's operation in favorable cases requiring craniotomy, or one of its operations; reserving Porro's operation for the less favorable cases in which labor had been very protracted at the time of operation. The results of Sänger's operation were even better than Dr. Lusk had stated, 21 having recovered out of 27 operations, up to the middle of June. It was much to be regretted that English text-books contained no proper description of Sänger's operation, the essentials of which consisted in employing 8 or 9 deep muscular silver sutures, just avoiding the decidual line, and 18 to 25 superficial "sympteritioneal" catgut sutures. Out of 19 cases of this operation performed in three German Hospitals, 18 women recovered, and all the children were saved.

Dr. Alderson (London) referred to the danger of considering that Porro's operation required no more surgical skill than craniotomy. It might be so in the hands of Mr. Lawson Tait, but he did not think so with the average surgeon. Dr. Alderson had operated by craniotomy seven times, and nearly always successfully; on one patient three times. She refused to have labor induced, and he refused to alter it. He had since heard that she died in labor in craniotomy. He did not forget that one lady unfortunately died, but she had been several hours in labor. Two surgeons had endeavored to deliver previously. He also failed to apply forceps, and also to deliver by craniotomy.

Dr. M. Cameron (Glasgow) agreed with Dr. Lusk that all these operations need not be at all antagonistic. His opinion was, that the question was obstetrics *versus* surgery, and would not trust the opinion of any surgeon he knew as to whether a case was one requiring any instrumental aid whatever. Surgeons boasted that they had never attended a midwifery case, unless, perhaps, their own birth. Under such circumstances, they were not the persons to decide when the case was one for forceps, craniotomy, or Porro's operation. In fact, he had known cases where the patients fared better when left to a midwife than in the hands of a physician. When attended by the physician, the cases were for craniotomy; but when attended by a midwife, living children were born. Therefore he would urge a closer study of obstruction at the brim, as might be found in Lusk's or Charpentier's works, and a very careful examina tion of every case met with. His own experience was that craniotomy need not be so fatal, if proper care were shown in the removal of sharp bones. Again, with regard to ovariotomy, he knew many skilled surgeons who refused to operate if the patient were menstruating. Such being the case, it could well be understood how pregnancy would largely increase the danger in an abdominal operation.

Dr. Thompson (Rome) was surprised to hear gentlemen state that, during twenty years of extensive practice, they had met but one case demanding craniotomy or abdominal section. His experience must have been very unfortunate, as, during thirty years of a rather large obstetric practice, he (Dr. Thompson) had repeatedly seen cases demanding either the operation of craniotomy or Cæsarean operation. With the advance in abdominal surgery of the last ten years, he believed the chances for the mother and child were far better by abdominal section than by craniotomy. The latter operation he considered unjustifiable, as it caused certain death to the child and great risk to the mother. With the abdominal section there were prospects for both.

Mr. Hough (Cambridge) said that, after a large practice of midwifery of over forty years, he had only met with one case in which it was necessary to perform craniotomy, and that was about forty-two years ago, under the advice of the late Dr. F. Ramsbotham. He had lately made more frequent use of the forceps than he had been formerly in the habit of doing.

Dr. Edis (London) thought there was one aspect of the question which had not met with the consideration it deserved, and that was the preventive aspect. No practitioner should undertake to attend a patient in labor without insisting firmly but kindly upon the necessity of ascertaining the conjugate diameter of the pelvis in the case of a primipara, or of acquainting himself with the history of previous labors in cases of multiparæ. If the diameter of the pelvis were such that labor at full time of an average-sized child seemed improbable, it was clearly a duty to induce premature labor, if such a measure seemed judicious, as offering a better chance to both mother and child than if pregnancy were allowed to go on to full time. Dr. Edis had succeeded in delivering living children in cases of contracted pelvis, where craniotomy had been resorted to on many previous occasions. Where the precaution of ascertaining the capacity of the pelvis was neglected, cases would continue to occur where craniotomy apparently offered the simplest way out of the difficulty, more especially in those cases of protracted labor where the life of the fœtus was presumably already sacrificed, and the fœtal head was impacted in the pelvis. But, if every practitioner would make a point of exploring carefully the capacity of the pelvis when first called to attend a patient in labor, supposing that he had not previously done so, as suggested, there would still be time for considering what method of operation would be likely to prove most satisfactory to both mother and child, in place of hastily resorting to craniotomy. Although the life of the child was potential, the mother's being actual, still that was no reason why due consideration should not be given to its interests. With the improved methods of abdominal surgery, there was little doubt but that Porro's operation, as now modified, should largely replace the repulsive operation of craniotómy. Laparo-elytrotomy, in skilled hands, might prove useful in some cases, but would never come into very general use, on account of the difficulties attending it, and the danger of injuring the base of the bladder.

Mr. C. J. Wright (Leeds) named three cases of Cæsarean section in which he assisted. The mothers died, but all three children were saved. In this country, this operation was performed after prolonged labor, when the mother was exhausted. For Porro's operation, however, a suitable time might be selected, and due preparation made before the powers were weakened. The serious point to decide was how far a surgeon was justified in recommeding Porro's operation for those cases where, with a contracted pelvis, induction of premature labor had failed to produce a living child, or where craniotomy had been repeatedly required.

REVIEWS.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION, FOR THE YEAR 1885. VOL. II. Edited for the Association by JOHN SHRADY, M. D., of New York County, New York: D. Appleton & Co. Pp. 683.

That this volume, with its abundant illustrations, is a credit to the Association, is far short of an exaggerated statement. It deserves to take high rank in medical literature, and certainly affords, as the preface puts it, "a proof that the busy practitioner can spare a moiety of his time in the cause of mutual enlightenment." The earnest work of this young association, now for a second time on record, is a scientific contribution which cannot fail to be recognized by the profession at large, while its methods of bringing out heretofore latent talent will be likely to stimulate imitation.

Dr. John P. Gray, in his Presidental Address, and Dr. A. L. Carroll, on "State Medicine," both take strong grounds against over-legislation, as likely to cripple physicians by conceding too much to what might be called the parental functions of the State.

Dr. H. D. Didama propounds his well-known views on phthisis in a paper entitled, "Tubercular Consumption—Is It Ever Inherited?"; not, however, without some vigorous tilting on the part of Dr. T. F. Rochester. The etiological conclusions of this paper are:

"1. Tuberculous phthisis is not inherited.

"2. Neither is a special *tendency* to the disease transmitted. In *fragilita ossium*, the great brittleness of the bones is not spoken of as a *tendency* to fracture; liability is the better expression. An inherited tendency to catch small-pox would be a double absurdity.

"3. Many conditions—as poor and insufficient food, damp and impure air, stinted sunlight, low altitudes, certain occupations—favor the taking and development of the disease.

"4. Two conditions are almost indispensable: *abundance* of bacilli, and an inviting asylum for them, furnished by an inherited or acquired cellular vincibility.

"These conditions predominate in the abodes of consumptives."

" Psoitis and Peripsoitis," by Dr. Simeon T. Clark, is a well-written article, imparting much needed information, particularly in the way of early diagnosis.

" Shock—or the Effects of Injuries to the Nervous System," by Dr. Charles W. Brown, follows as a rival in lucidness of statement. Cases are cited where crushing injuries are not only without pain, but foster a nervous exaltation. Dr. E. S. F. Arnold and the lamented Hamilton carry on the discussion in a particularly interesting manner, giving their philosophy of the etiology.

"Report of a Case of Insanity Following Gunshot Injury to the Head; Cerebral Cyst, Aspiration, Recovery," by C. F. MacDonald, will well repay study as being one of the most interesting papers of the series.

" Rupture of the Vagina through Douglas's *cul-de-sac* at the First Coitus," a brief contribution by Dr. R. H. Sabin, adds a case to the literature of the subject, which, in its medico-legal relations, will probably be frequently quoted.

"Medico-legal Bearings of Pelvic Injuries in Women," by Dr. Ely Van de Warker, is a discussion upon fraudulent claims against corporations, based upon allegations of manifest absurdity, which triumphantly pass the jury by reason of insufficient defense and misplaced sympathy. The evils of the so-called " expert " system of evidence are here well portrayed.

A great feature of the publication is the set discussion upon pneumonia, opened by the great master, the late Professor Austin Flint, in which Drs. H. D. Didama, F. W. Ross, E. G. Janeway, W. H. Robb, H. M. Biggs, T. F. Rochester, E. Van de Warker, S. T. Clarke, Charles S. Wood, John Shrady, E. D. Ferguson, Gaspar Griswold, C. S. Stockton, Wm. S. Fuller, and John G. Orton participated. A lively extemporaneous discussion follows, to add to the completeness of the programme. As allusion to this controversy, if such it may be called, so friendly was its spirit, has already been made in the JOURNAL, it remains only to add that the drift of opinion seemed to be that the disease, etiologically, was an essential fever, in which micro-organisms played an important part. The treatment, as recommended, verged rather upon the expectant plan—or, at least, none of the disputants expressed very radical views, or urged the claims of any specific. The tone of the entire discussion is scholarly, with an interesting grouping of facts, and a suggestiveness of much unsuspected talent. It is to be hoped that, in the future work of the Association, this mode of presenting subjects to the profession will be continued. It certainly is a remedy for diffuseness and iteration, and we are glad to see that the plan has begun to be copied by other societies.

Dr. Austin Flint, Jr., well acquits himself in his "Address on Some of the Relations of Physiology to the Practice of Medicine." He shows the operation of law in the government of disease, and makes some very happy allusions to so-called "pathological physiology," another name for the natural history of disease. "Diseased conditions," says he, "may indeed be regarded as experiments made by nature upon the human organization." The writer's reference to cardiac lore, as interpreted by physiology, is especially lucid.

Dr. Isaac E. Taylor contributes an article on "Recto-labial and Vulvar Fistulæ," in which he gives the details of his well-known method of treatment by the ligature. To Dr. J. Rhea Barton, long since deceased, he awards the credit of origination. Illustrations much enhance the value of this contribution.

Dr. E. M. Moore, in "Recurring Luxations," rehearses a series of experiments upon the cadaver in proof of their possibility. This paper is well worth several perusals, so rich is it in suggestions.

Dr. Frederick Hyde considers "The Significance of Certain Symptoms in Hernial Strangulations and Rules for Treatment," and advocates prompt herniotomy as against persistent and ineffectual taxis. To this view Drs. Gouley, Varick, and others subscribe in the discussion which follows.

Dr. John S. Jamison, in a paper entitled "Medicinal and Dietetic Therapeutics of the Common Forms of Chronic Intestinal Catarrh," insists upon the value of laxatives and prolonged patience in the matter of diet. The discussion which follows, though somewhat discursive, gives many valuable hints.

Dr. Isaac Purdy contributes "A Cursory Review of the Epidemic and Endemic Diseases of Sullivan County, During the Last Thirty-four Years." The paper is graphically, almost dramatically written, and easily blends with the discussion on diphtheria which follows.

Dr. W. B. Sabin, in his note on "Removal of an Enterolith," etc., reports that the mass taken from the rectum weighed four and a half ounces, notwithstanding a loss of more than half an ounce by crumbling. Digital examination proved it to be "about as large as a turkey's egg." Professor W. P. Mason, of the Van Rensselaer, gives the analysis as follows: Organic matter, phosphate of lime, phosphate of magnesia, carbonate of lime, sulphate of lime (very small), and silica (a trace), the main constituent being phosphate of lime. The case is peculiar as evidencing petrifaction.

Dr. Henry C. Van Zandt writes trenchantly upon "Commercial Prescriptions," claiming that the officinal preparations, supplemented by individual skill in combination, are quite sufficient for all emergencies, and should, notwithstanding the printed formulas, supplant the "elixirs" which flood the market. He maintains that their use is detrimental, as begetting habits of slovenliness, and as fostering a reprehensible credulity on the part of the physician.

Dr. Isaac de Zouche holds forth right eloquently on the benefits of "Prophylaxis," and gives a brief *résumé* of the typhoid fever epidemic at Plymouth, Pennsylvania, which, in the discussion following, brought out a fuller statement of details by Dr. Wm. H. Thornton, one of the appointees of the Buffalo Board of Health Committee of Investigation.

Dr. Edward G. Janeway, in his "Address on Pathology," well sustains his reputation as a careful sifter of the wheat from the chaff. His tracings of the various additions to our knowledge of micro-organisms, and history of the recent discoveries in this field, are particularly clear and succinct; in their way, they constitute a valuable epitome.

Dr. William Fitch relates "A Case of Poisoning by Two Grains of Strychnia," which was treated by hydrate of chloral and coffee; one hundred and forty grains of the salt mentioned was administered in the course of four hours, with the most gratifying results.

Dr. Wm. Wotkyns Seymour follows with "A Case of Gall-stones, Patent and Concealed; Exploratory Laparotomy, with Autopsy, Ten Weeks Later." Here death resulted fifty-three days after operation. The necropsy revealed the presence of twenty-six gall stones, weighing in the gross half an ounce Troy. A mass involving the cystic and hepatic ducts was cancerous, and to its existence may be attributed the fatal issue. The writer advocates incision and removal of the stones in like cases, instead of extirpation of the gall-bladder after Langenbeck's method.

Dr. Nelson L. North is represented by an exceedingly well considered article on "The Therapy of the Chlorides—Antisepsis a Prominent and Important Factor in Their Medical Action." "Treatment," concludes the writer, "is not so much an effort to sustain the patient till the crisis is past, as it is an effort to destroy the *materies morbi*, and thus relieve the patient from the toils of his enemy."

Dr. J. D. Rushmore, in "The Treatment of Abscess," demonstrates the advantages of the curette, citing cases in support of his views. He introduces a new draining device to the notice of the profession, described as consisting of an ordinary Jacques's catheter without any side openings, the central canal open at both ends, and the wall of the catheter so compressed as to give three moderately deep longitudinal grooves, extending from what may be called the free end to within a line or two of the point of the instrument. The drainage, he says, takes place almost altogether through the external grooves, and to a very slight extent by the central canal.

Dr. Wm. Henry Thayer, on "Chronic Catarrhal Gastritis; Fatal from Complication of Sudden Enlargement of Thyroid Body," relates a remarkable case. Death was attributed to "strangulation, produced partly by the blocking of the throat by a mass of viscid mucus, raised in large quantities from the stomach, aided by the pressure on the larynx of a suddenly enlarged thyroid."

Dr. J. K. Leaning, on "Ergot; Its Uses and Abuse," despite his disclaimer of any originality, presents his subject very pleasantly and barely escapes the suspicion of enthusiasm. He cites a case of an arrest of abortion by the use of the drug.

Dr. Charles G. Stockton discourses upon "Nutrition in Lithæmia," and concludes with the following axioms: "Avoid quinine; look carefully after gastro-intestinal catarrh; keep open all the sewers of the body, including the liver; be most mindful of the primary digestion and suit the diet to the case, using, if needed, pepsin and hydrochloric acid with albuminoids, vegetable diastase with starches, and extract of pancreas with milk and the fats, after the admirable plan of Roberts of Manchester. And finally, the most important and most neglected agent of all, oxygen, should be got into the body. Do this by massage, which will improve the capillary circulation and hasten the lymph stream; by inhalation of oxygen, which promises much in this direction; by change of climate, or, if the case be not urgent, enjoin, as far as practicable, an active, out-door life, with horse-back riding. For if there be anything that is truly anti-lithæmic, exercising, exhilarating, tingling a man into the belief that he is related to the gods, that thing is equitation."

Dr. Frederic S. Dennis, on "The Action of Micro-organisms upon Surgical Wounds, with Demonstrations," besides bringing up the literature of the subject, adds many valuable experiments of his own. He gives his laboratory methods in an exceedingly clear manner. As he uses the Saxon "pure and undefiled," his style is, of course, striking. Eleven illustrations accompany the text of the paper.

Dr. Robert Newman writes upon "Causes of Failure in the Treatment of Urethral Strictures by Electrolysis." According to the essayist, the fault lay in the operator, in mistaken diagnosis, and in faulty instruments, for, says he, "The operation itself needs care, a clear head, a steady hand, and fingers which both see and feel, conjoined with patience and good management of the case. In the strictest sense, there can be no failures, as electrolysis is a chemical action, fixed by natural laws."

Dr. George T. Harrison appears with "Remarks upon Sub-peritoneal Peri-uterine Hæmatoma," in which, after cursory references to the obscurity in the earlier views of its pathology, he restricts his comments to the salient points in etiology, symptomatology, differential diagnosis, and treatment. To quote from the paper would be an injustice to the writer, owing to the interdependence of his statements and the chain of his arguments.

Dr. John Shrady reviews the means of diagnosis in "A Case of Cancer of the Kidney," occuring in a child in which hæmaturia was absent and the temperature did not average more than 100½°. The chief reliance of the writer appears to be upon diagnosis by exclusion, and by the elimination of probabilities that the organs of the region are very likely to be of feeble functional activity.

Dr. Lewis A. Sayre occupies 46 pages with his paper on "Spondylitis and Rotary Lateral Curvature of the Spine—Their Proper Treatment Practically Demonstrated, with Exhibition of Cases." It is a masterly exposition of the distinguished surgeon's methods, which cannot fail to bring conviction to the minds of the most skeptical. Want of space forbids our giving even a synopsis; we need only to say that our readers will find it a very instructive as well as pleasant contribution to the general fund afforded by this superb volume. The article is profusely illustrated with cuts of much artistic merit.

Dr. J. W. S. Gouley, to whom much of the success of the last Association meeting was due, displays a gem in his "Notes on Contraction of the Bladder Consequent upon Cystitis." The paper is an exhaustive one, and, so far as we can see, anticipates all reasonable questions upon the subject. The treatment advised, which of course varies with the individual case, we deem eminently rational. "Slow, gradual, and progressive hydraulic dilatation of the bladder," after the method of Civiale, is recommended in the main, along with the exhibition of pain-mitigants when necessary.

Dr. S. T. Clark adds another to his contributions in the way of a "Note on Two Peculiar Conditions of the Mammary Glands." One case was a supernumerary mamma, in which milk was secreted simultaneously with its proper neighbors. The use of the supernumerary organ was dispensed with by means of compression, and nursing was continued from the normally situated glands. In the second case there was an escape of blood from the nipple, and some indications of an active secretion of milk—the patient, aged about 49 years, having ceased to menstruate. The writer regards the case as one of vicarious menstruation, there being as yet no cancerous nodules or any manifestation whatever of the existence of a neoplasm.

Dr. Thomas H. Allen describes in detail an operation performed by himself for the "Removal of the Uterus for Cancerous Disease." His conclusions are: 1. Whether or not cancer of the womb be a local disease, statistics justify its removal by operation. 2. The opening of the abdomen is not specially hazardous to life, as the statistics of Baum state that, of 5,153 ovariotomies performed in Europe and America, 3,651 recovered. The operation of gastrotomy for removal of the womb for fibroid tumor has yielded 31.82 per cent. of recoveries. 3. Removal of cancerous uterus by laparotomy is justifiable when no other operation can be performed, and when the disease, as yet limited to the uterus, has not invaded the blood.

Dr. William Lincoln Allen comments in a very sensible way upon a case of hemorrhage from the urethra, due to forced catheterism.

Dr. Charles S. Allen furnishes a "Report of a Case of Biliary Calculi, Diffuse Hepatitis and Hydrothorax." The necropsy revealed an agglutination of the small intestines, pancreas, and mesentery; an enlarged liver adherent to the right side and containing a number of abscesses, some of which had discharged; the gall bladder containing a number of calculi of various sizes, some of which would have defied dislodgment during life; and the pericardium, with the left thorax, filled with serum.

Dr. Wm. Wotkyns Seymour is again represented in the volume by a contribution entitled "Pelvic Hæmatocele; Its Diagnosis and Treatment." He treats his subject somewhat exhaustively, and abounds in references to authorities. The paper is a very satisfactory one, and well worth a careful perusal.

Dr. George E. Fell concludes the literary part of the remarkable work of this very young association with "Some Etiological Factors in the Acneform Diseases." He takes the ground that the common face-parasite, the

Demodex Folliculorum, "is not, as represented, an innocuous agent in the production of the acneform troubles. A germicide ointment composed as follows: Hydrarg. Oleat., ℥i; Sulphuris, ʒi; Olei Olivæ, q. s., does its work well, and restores the uneasy patient to society with a clean face.

This volume, as a whole, is well printed and extraordinarily free from annoying typographical or grammatical errors. It is one of a series which will be a welcome addition to any medical library.

HOW WE TREAT WOUNDS TO-DAY. A Treatise on the Subject of Antiseptic Sugery Which Can Be Understood by Beginners. By Robert T. Morris, M. D., Late House-Surgeon to Bellevue Hospital; Consulting Surgeon to the Woman's Hospital of Brooklyn, etc. Second edition. New York and London. G. P. Putnam's Sons. 1886. Pp. X., 165. Price $1.00.

The rapid sale of this little work, which has rendered a second edition necessary so soon after the appearance of the first, is a sufficient indication of the reception which it has met at the hands of the profession. Containing, as it does, much that is scarcely to be found in any systematic work on surgery yet published, the practitioner finds in it just what he wants to know about the antiseptic treatment, expressed in a clear, forcible, and lively manner, which cannot but bring the matter strongly home to him. The new surgery is graphically set forth in all its completeness, and the details insisted upon would certainly astonish a general practitioner or even the most skillful surgeon of twenty-five years ago. Take, for example, the subject of burned wounds. Under the heading, "Class C, Burned Wounds; Variety I, A Limited Burn of the Second Degree," the author says: "A child upsets the tea-kettle and burns the right leg from the knee to the ankle with hot water.

"Large blebs and vesicles are raised above the surrounding skin, and, when the cuticle over a bleb has ruptured, the underlying true skin is exposed. Several square inches of true skin have been exposed in this way.

"In order to do thorough work it will be best to anæsthetize the child. This having been done, the little patient is placed upon the rubber sheet on the table. Towels wrung out in 1-1,000 bichloride solution are spread on the rubber sheet, under the limb, and are wrapped about the thigh and foot.

"Your hands having been scrubbed in 1-1,000 bichloride solution, a pair of scissors and a pair of thumb forceps are taken out of the dish of carbolic acid solution at your side, and, while an assistant irrigates with 1-2,000 bichloride solution, strip and pull away all loose cuticle and all of the cuticle which covers the unruptured blebs. This having been done, the towels are replaced with fresh ones, and you proceed to rinse the leg thoroughly with 1-5,000 bichloride solution.

"Take two-inch-wide strips of Lister protective out of the bottle of carbolic acid solution and rinse them off in 1-5,000 bichloride solution. Lay them smoothly over the wounds in such a way that all exposed surface will be covered as though with a new skin of the pretty green silk. Sprinkle iodofrom along all margins of protective. Wrap bicloride gauze smoothly about the limb to the thickness of one inch, so that the gauze extends beyond the distal and proximal limits of the protective. Cover the gauze with a two-inch-thick layer of bichloride cotton. Bandage smoothly. Elevate the limb on pillows. Sprinkle iodoform on damp places in the dressing, if serum run through, and add an extra wad of bichloride cotton.

"After seven or eight days have passed, cut open one end of the dressing and see if all is well. I have never seen a burn of the above character treated in the manner described which failed to heal completely under one dressing by the tenth day." The author then goes on to explain the reasoning through which the "scientific" method for dressing the burn is deduced; but lack of space forbids its insertion.

In the first edition Dr. Morris remarked: "Scientific antisepsis is, after all, only an exalted degree of cleanliness, but this exalted degree of cleanliness can be reached through scientific antisepsis alone." In the second edition he enters into a somewhat elaborate explanation of what he believes to be the causes of Tait's remarkable success in laparotomy without the use of antiseptics, and then goes on to say: "The fact remains that laparotomies can be done successfully without the employment of microbe-destroying agents; but given this fact, and how many men are working successfully in abdominal operations without depending upon antiseptics? Two or three! Give these two or three men a knee-joint in which the condyles of the femur have been shot through and through by a number forty-four Winchester bullet; and what success would they attain in the way of putting the patient out of danger from inflammation and suppuration? * * * It is time that we were done with arguing exceptions instead of principles."

A MANUAL OF ANIMAL VACCINATION, PRECEDED BY CONSIDERATIONS ON VACCINATION IN GENERAL. By Dr. E. Warlomont, Member of the Royal Academy of Medicine of Belgium; Founder of the State Vaccine Institute of Belguim; Director of the "Institut Vaccinal de Belgique," at Brussels, etc. Translated and Edited by Arthur J. Harries, M. D., Consulting Physician to the Association for the Supply of Pure Vaccine Lymph, etc. With an Appendix, Showing the Results of Re-vaccination and the Comparative Utility of Animal Vaccine. Philadelphia: John Wyeth & Brother. 1886.

The use of animal vaccine has now become so general in the profession that a thorough knowledge of its source and preparation is very desirable; and the work in question is, it is believed, the most exhaustive one that has appeared on the subject. The author of the manual, Dr. Warlomont, has long been the leader in the movement to establish animal vaccination as the best *method* for securing protection against small-pox; and in the search for the best virus for propagating in the model establishment recently started by them the Messrs Wyeth were directed to the vaccine bureau of the Belgian Government, of which Dr. Warlomont was the founder, and for a long time the official head. The first portion of the work is devoted to "General Observations on Vaccination", and treats, first, of the modes of origin of vaccine lymph, and, secondly, of human vaccination, its preservation, use, and failures. He exhibits no prejudices against the latter, and only pronounces for the greater utility of animal vaccination after rigorous analysis of all the facts bearing on the question. The second portion, relating to animal vaccination, is divided into four chapters, the first treating of the definition, object, and reasons for the practice of animal vaccination; the second, of the technics of animal vaccination; the third, of the development of the vaccine eruption in the bovine species; and the fourth, of the collection and preservation of animal vaccine. The manual ought to prove of the greatest service, not only to the medical profession in general, but also to boards of health and other sanitary bodies.

It is with great pleasure that the following extract from the introduction by the publishers is inserted here; for the profession throughout the country, it cannot be doubted, is greatly indebted to them for the broad intelligence, liberality, and energy which they have displayed in the cause of pure vaccine:

"The readers of this work are invited to see for themselves how nearly we conform to the ideal of its author, and how we maintain the traditions of the Belgian Bureau of Vaccine. Our establishment is always open to the scrutiny of physicians and sanitarians, interested in its objects. We realize, as all do who have had occasion to inform themselves, how important it is to have a vaccine propagating establishment conducted with that scientific knowledge and practical skill which hitherto have been found only in the official bureaus of the European States. In the absence of governmental control, private resources must accomplish the same end, and attain to the same completeness, both in the machinery and in the scientific character of the work done. We believe that we have accomplished this arduous and important task."

MISCELLANEOUS.

ANOTHER FORK IN THE STOMACH.—M. Polaillon reported, at a recent session of the Paris Academy of Medicine, an interesting case, which was then under his care, but which terminated fatally, of a man who had swallowed a table-fork. The patient explained very exactly, as was afterwards found, the position of the fork, its handle being in the right hypochondrium, and the prongs directed obliquely upwards, backwards, and to the left. Scarcely anything, however, could be felt by external palpation, although the man was of spare habit, and M. Polaillon at first had some doubts as to the existence of the foreign body, especially as an œsophageal sound gave no indication of anything hard when passed into the stomach. An instrument was then constructed on the principle of the galvanic bullet-probe, and a slight indication was obtained with it. A delicate magnetic needle was, however, distinctly affected when the man's epigastrium was brought near it; and a powerful electro-magnet, placed a few millimetres from the abdominal wall, produced, on closing the circuit, an arching of the skin, as if a body within the abdomen were being attracted towards the poles. A suspended electro-magnet also oscillated towards the abdomen whenever the current was passed through it. There being, therefore, no longer any doubt as to the existence of the fork in the stomach, M. Polaillon made an incision, commencing at the ninth left rib, one centimetre within the border of the costal cartilages, and, carrying it for seven centimetres in the direction of the xiphoid cartilage, as recommended by M. Léon Labbé, as the best position for reaching the stomach with certainty. In this case the stomach wall, which was very thick, was seized without difficulty, temporarily secured and opened, the fork easily removed, and the gastric wound accurately sutured with catgut and then returned. The abdominal wound was afterwards brought together with silver sutures and dressed antiseptically. The operator remarked that he had departed from the method hitherto employed of causing the stomach to adhere permanently to the abdominal wall and setting up a fistula; the result would show whether his plan succeeded as well as the *suture perdue* does in intestinal wounds. A discussion took place subsequently on the possibility of succeeding by means of an electro-magnet in extracting a fork from the stomach through the œsophagus. This M. Leroy de Méricourt thought could never be done because of the small size of the cardia; but MM. Polaillon and Goubaux suggested that sufficient dilatation might, perhaps, be caused by the induction of vomiting.—*Lancet.*

ALLEGED CURE OF HYDROPHOBIA.—Our Paris correspondent writes: "The following case of authenticated cure of hydrophobia addressed to Dr. de Pietra Santa, and which was published in the *Journal d'Hygiene*, may be of interest. A peasant of Saint Anastasia, near Naples, aged fifty-two, was bitten on the 10th of May last in the leg and in the forearm by a dog whose rabid condition was verified at the necropsy. On July 28 the man was suddenly seized with malaise, excitement, and oppressed breathing, accompanied with a sense of constriction in the throat. His wife offered him a glass of water, but the sight of this liquid immediately threw him into a fit of mania, which was followed by convulsions. He was taken to the Hospital for Incurables at Naples, where he was admitted into the ward of Dr. de Capua in a most deplorable condition. The patient complained of feeling cold; the sight of water and the slightest current of air provoked a great degree of excitement, convulsions, and delirium. Basing his faith on the eminently parasiticidal virtue of corrosive sublimate, Dr. de Capua immediately practiced repeated injections of this salt subcutaneously, and combated at the same time the nervous paroxysms (culminating symptoms of rabies) with injections of atropine, which he alternated with those of the corrosive sublimate. The injections were renewed the following days. This treatment was crowned with full success. The rabic symptoms amended progressively, and after a few days the patient was able to swallow a glass of water without wincing. Soon after this he asked to eat and drink, and expressed a desire to leave the hospital.—*Lancet.*

MIDWIFERY STATISTICS IN VIENNA.—Dr. Karl Braun has lately published some very valuable statistics showing the improved and improving safety with which the patients in the first obstetrical clinic in the Vienna General Hospital have been delivered during several years past. He took charge in 1857, and during the twenty-six years following—*i.e.*, to 1883—108,889 women have been confined in this clinic which, it may be remarked, is only one out of three obstetric clinics in the hospital. Of these 1,945 died, making the average death-rate for the whole period 17 per 1,000. During the first six years there were 722 deaths out of 25,123 cases—*i.e.*, 28 per 1,000. The ventilation and warming arrangements were then altered in accordance with modern sanitary views, and various other hygienic improvements made, the result being that there was a decrease in the mortality during the next sixteen years, 1,117 deaths occurring in 68,770 cases, or sixteen per 1,000. Since 1881 there has been a further decrease, owing to the use of antiseptics, etc., 15,000 cases in the last five years having resulted in only 106 deaths, or 7 per 1,000. This improvement appears to be still continuing, as during 1883 the mortality was only 2 per 1,000. During the whole period 7,964 students received practical instruction in the clinic, the average number in each session or semester being 136.

TOBACCO AND COLOR BLINDNESS.—The Anti-Tobacco Society must have chuckled with glee at reading how Dr. Michael Foster told the members of the British Association that color blindness is the result of smokers sticking to the same kind of tobacco. The assertion, if true, is sad; but the argument cuts both ways. If to smoke one tobacco produces defective vision, it seems at least not impossible that eyesight might be improved by the inhalation of a judicious variety of tobaccos. Physiologists have long deplored the fact that they had not the making of the human eye; they could suggest so many ways by which it might have been rendered more perfect than it is. Were it not for Dr. Foster's discovery it might have escaped them that there was probably a reason why the eye is incomplete. It was clearly because we have not hitherto been brought up on assorted tobaccos. But the man of the future will in infancy puff mild Turkish, and proceed through returns, honeydew, and negrohead, till at last he will find himself able to take, in very truth, a bird's-eye view of the world.—*St. James Gazette.*

AN INDIAN ACCOUCHEMENT.—A baby was born in Geronimo's party a few days after the capture of the band, and while it was *en route* on horseback to San Antonio. The father of the papoose was Geronimo's son, who is described as a stout-looking fellow, hardly more than a boy. The experience of this Indian wife is said to be not very common even among wild tribes of the Southwest. She gave birth to her child while the band was being hurried to San Antonio at the rate of ninety miles a day. The birth caused a delay of only a few minutes, and the Indians seemed to consider it a matter worthy of little attention. Within a few minutes after the birth of the child the mother was on the back of her horse once more, and carrying her baby in a cradle strapped to her back. She kept her place in the cortége, and on the following day rode ninety miles. Afterwards she was in seeming good health, and her extraordinary experience had apparently done her no injury.

PHYSIOLOGY IN THE SCHOOLS.—A New York school girl, whose ideas of the human economy appear to have been somewhat hazy, and who had evidently become powerfully impressed with the gastronomical capacities of our city fathers, when asked to describe the alimentary canal and its physiological uses, replied: "The elementary canal is curled up in the alderman, and only wholesale food should be admitted."

MEDICAL NEWS.

MEMORIAL MEETING IN HONOR OF DR. F. H. HAMILTON.—The Society of Medical Jurisprudence and State Medicine held a meeting in memory of

Dr. Frank H. Hamilton, its late President, at the Hall of the Academy of Medicine, September 30. The opening address was made by the Hon. Amos G. Hull, Vice-President of the Society; after which Dr. Charles A. Leale, President of the New York County Medical Association, delivered an extended eulogy of Dr. Hamilton, in the course of which he gave an exhaustive review of his career and his eminent services to surgery and to the profession and society at large. The Secretary, Dr. G. W. Wells, then read a tribute to the deceased prepared by Gen. Calvin E. Pratt; which was followed by brief addresses by Drs. Austin Flint, John Shrady, C. S. Wood, Nathan Bozeman, Messrs. Kitchell and Russell, and by other members of the medical and legal professions. The following resolutions, offered by Dr. Leale, were adopted:

Whereas, The medical and legal professions have sustained a sad bereavement in the death of Professor Frank Hastings Hamilton, A.M., M.D., LL.D., late President of the Society of Medical Jurisprudence and State Medicine, which occurred at his residence on the eleventh day of August, 1886; and

Whereas, It is eminently proper for us, in our associated as well as private relations, to express our great admiration of the life and character of one who has done so much to elevate Medico-Legal Science; therefore,

Resolved, That as a Society composed of members representing two of the learned professions which he labored so hard to advance and harmonize, we add our tribute of loving esteem;

Resolved, That Dr. Hamilton, from his pre-eminent talents, and his position as a teacher, writer, and practitioner, covering a period of over half a century, has been the means of deciding many perplexing questions coming properly within the jurisdiction of our Society, and has thereby greatly relieved the professions from the malice of unwarrantable litigations;

Resolved, That the humanity, benevolence, and fixedness of purpose exhibited during many years of constant professional toil, under numerous trying circumstances, ever with the sincere desire to promote his art and benefit mankind, have ennobled his character, and left to us a name worthy of our highest emulation;

Resolved, That the example of his life, diligent study in early youth, manifest desire to acquire knowledge by carefully searching the museums of America and Europe for anatomical specimens to settle disputes in surgical pathology, his translations of foreign medical works, his careful and accurate teachings, united with a stern integrity ever to be truthful, and last, but not least, his monumental volumes on "Fractures and Dislocations," which have been the standard works recommended by colleges at home and abroad, and remain to-day unequalled in surgical literature, having been translated into many foreign languages, and are the acknowledged authorities wherever surgery or medical jurisprudence are taught—these, with many other honorable characteristics, have justly endeared his memory to every true and faithful member of our professions, and placed his name upon the scroll of the illustrious men of the first century of American history.

NEW YORK COUNTY MEDICAL ASSOCIATION.—At the last meeting of this Association, held October 18, the following papers were read: "Some Points of Special Interest in the Treatment of Compound Fractures; Including a Report of Over Five Hundred Consecutive Cases," by Dr. Frederic S. Dennis;

and "Remarks on Abscess of the Brain from Suppurative Otitis, with Illustrative Case," by Dr. F. Van Fleet. Dr. J. W. S. Gouley presented a specimen of large vulvo-vaginal cyst which he had recently removed. The following resolutions on the death of Frank H. Hamilton, M.D., LL.D., offered by the Vice-President, Dr. John Shrady, were adopted:

Whereas, It has pleased the Almighty Disposer of Events to remove from the sphere of his usefulness our much respected co-worker, Frank Hastings Hamilton, M.D., LL.D., and

Whereas, The New York County Medical Association desire to express a sense of their bereavement, in common with the many organizations with which he was connected; therefore be it

Resolved, That the fullness of his days has been a record of a well-spent life; and that his work has adorned the surgical annals of America, borne his name beyond the borders of our hemisphere, and added to the solid contributions to medical literature;

Resolved, That as a scholar in his chosen science he has won a place among the worthies of all tongues, and that he has conscientiously weighed all his statements, and given to the world the results of a ripe experience and a most painstaking discrimination;

Resolved, That his professional life has been gauged by the strictest regard to the right—that his loyalty, ever unimpeached, was never expended upon the unworthy, nor his unswerving rectitude ever challenged even by the captious multitude;

Resolved, That the memory of his many virtues will ever linger with us, and that we tender to his family our sympathies; assuring them that his humanity, his sterling merit, and his valued counsels have not been unappreciated by those who had the honor of association with him.

THE AMERICAN GYNÆCOLOGICAL SOCIETY held its eleventh annual meeting in the Hall of the Johns Hopkins University, September 21, 22, and 23, 1886. The following officers were elected for the ensuing year: President—Dr. A. J. C. Skene, of Brooklyn. Vice-Presidents—Dr. John C. Reeve, of Dayton, O., and Dr. Elwood Wilson, of Philadelphia. Secretary—Dr. Joseph Tabor Johnston, of Washington. Treasurer—Dr. Matthew D. Mann, of Buffalo. Additional Members of Council—Drs. W. H. Baker, of Boston; C. C. Lee, of New York; T. M. Drysdale, of Philadelphia; and A. Reeves Jackson, of Chicago. The following were elected new members: Drs. Charles M. Green, of Boston; A. F. A. King, of Washington; E. C. Dudley, of Chicago; A. W. Johnstone, of Danville, Ky.; J. E. Janvrin, of New York; H. Marion Sims, of New York; B. F. Baer, of Philadelphia; and W. Gil Wylie, of New York. It was decided to hold the next meeting in New York, beginning September 15, 1887.

MEETING OF THE COMMITTEES OF CONFERENCE OF THE VARIOUS SPECIAL ASSOCIATIONS REQUESTED TO PARTICIPATE IN A CONJOINT SESSION.—In response to the notice issued by the Secretary of the Committee of Conference of the American Surgical Association, the Committees of Conference met at the Army Medical Museum, Washington, D. C., on Friday, September 24, 1886. The meeting was organized by the election of Dr. S. C. Busey, of Washington, Chairman, and Dr. J. Ewing Mears, of Philadelphia, Secretary. Dr. Wm. Pepper offered the following resolutions, which, after careful consideration and discussion by those present, were adopted separately, and then as a whole:

1. That it is desirable that the American Surgical Association, the Ameri-

can Ophthalmological Association, the American Otological Association, the American Neurological Association, the American Laryngological Association, the American Gynæcological Association, the American Dermatological Association, the American Climatological Association, and the Association of American Physicians and Pathologists, shall arrange for a conjoint meeting in the City of Washington, in the month of September, 1888, and subsequently at intervals of three years, at the same time and place.

2. That this arrangement shall not interfere in any way with the autonomy of each special Society; and that each Society shall retain the right to withdraw at any time from this conjoint scheme.

3. That the special feature of the meeting shall be the conjoint assemblage of the special Societies on two evenings during the session; on one of which there shall be an address delivered by the President of the conjoint meeting, and on the other there shall be communications by a referee and a co-referee on some subject of general professional interest.

4. That each special Society approving of this report is invited to appoint one representative (with an alternate), and that the representative so appointed shall constitute an executive committee to serve for one year, with power to elect such officers for the first conjoint meeting as may be deemed necessary; to prepare a programme for said meeting; to make all other necessary arrangements; and to prepare and submit a plan of organization for future meetings.

5. That all expenses connected with the conjoint sessions shall be apportioned equally by the executive committee among the special Societies participating.

AMERICAN ACADEMY OF MEDICINE.—The American Academy of Medicine held its annual meeting at Pittsburg, Pa., October 12 and 13. It adjourned to meet in Washington, D. C., the Friday and Saturday preceding the International Medical Congress in September, 1887. The following officers were elected: President—Dr. L. P. Bush, Wilmington, Del.; Vice-Presidents—Dr. R. Lowry Sibbett, Carlisle, Penn.; Dr. Samuel J. Jones, Chicago; Dr. Phineas P. Connor, Cincinnati; Dr. Virgil P. Gibney, New York; Secretary and Treasurer—Dr. R. J. Dunglison, Philadelphia.

NEW YORK ACADEMY OF MEDICINE.—On October 7, Julius Althaus, M.D., M.R.C.P., of London, read a paper before the Academy on "Some Phases of Cerebral Syphilis." On the following evening Dr. Althaus read a paper on "Paraplegia Dependent on Pott's Disease" before the Section on Neurology. The academy has just received a gift of $25,000 from the widow of Mr. Charles Woerishoffer, the banker.

A NEW POISON CASE.—Dr. G. W. Webster, of Chicago, describes, in the *Journal of the American Medical Association* of October 9, a new medicine case containing the various remedies used in different kinds of poisoning, together with a stomach pump and hypodermic syringe. Each bottle is labeled with the name of the drug, the dose, how administered, and in which cases it is serviceable. The case also has a small pamphlet, compiled by the author, which gives a summary of the general treatment of poisoning, together with a list of substances which are poisonous, with the prominent symptoms and treatment of each. The case is manufactured by Messrs. Charles Truax & Co., 81 Randolph Street, Chicago, and is said to be most compact and durable.

MORTALITY IN THE STATE OF NEW YORK DURING AUGUST.—According to the bulletin of the State Board of Health, the total reported mortality for August was 7,142, of which 46.3 per cent. were under the age of five years. From zymotic diseases there were 2,244 deaths, a ratio of 314.20 per 1,000 mortality. From diarrhœal diseases, the ratio per 1,000 is 207.78; from typhoid fever, 14.56; from croup and diphtheria, 43.00. From consumption the ratio of mortality is 12.05 per 1,000, and 224.80 per 1,000 above the age of five years. The combined death-ratio per 1,000 from zymotic diseases, consumption, and puerperal diseases, is 442.60. From acute respiratory diseases there were 67.20 deaths per 1,000. There have been 150 delayed returns received for July, 40 of which are of deaths under five years of age. In comparison with the mortality reported in July, the absence this month of that of the cities of Buffalo and Cohoes should be noted. The mortality of the two months, July and August, 1885, corresponds closely with that of this year.

LAPAROTOMY FOR GUNSHOT WOUNDS OF THE INTESTINES.—Dr. W. T. Bull, of this city, has again successfully performed laparotomy for penetrating gunshot wound of the abdomen. The patient was a sailor, aged twenty-five. Much blood was found in the abdominal cavity, the small intestine was pierced in two places, the sigmoid flexure in one, and there was a wound of the sigmoid mesocolon. All the wounds were carefully sutured, and the operation, which lasted one hour and a half, was well borne by the patient, who afterwards made a good recovery.

Dr. E. O. SHAKESPEARE returned to Philadelphia the latter part of September, after a year's absence in Europe, during which time he has been engaged as the representative of the United States in investigating, under the direction of the Secretary of State, the causes, progress, and proper prevention and cure of cholera. For this purpose he visited and prosecuted his researches in the cholera-infected districts of Spain, France, Italy, and India. He is now engaged in preparing his report, which, it is understood, will be substantially in accord with that of the German and Belgian Commissions, and in opposition to that of the English Commission. While not expressing a definite opinion in regard to the causative agency of Koch's bacillus, he is thoroughly convinced of its substantial diagnostic value.

INDICTMENT OF BROOKLYN OFFICIALS.—The Charities Commissioners of the City of Brooklyn have been indicted by the Grand Jury for alleged neglect in the care of the insane under their charge at the County Asylum at Flatbush, which is said to have long been in a disgracefully overcrowded condition.

RESTORATION OF THE COLOR OF THE HAIR BY PHOSPHORIZED COD-LIVER OIL.—The London correspondent of the *Journal of the American Medical Association* states that a patient was recently shown there whose hair, which was prematurely gray, returned to its natural color while he was under the internal administration of phosphorized cod-liver oil.

PRIZE ESSAYS.—The Medical Society of the State of New York offer to physicians of this State a prize of one hundred dollars, from the proceeds of the Merritt H. Cash Prize Fund, for the best essay on any medical subject that shall be approved by its Committee on Prize Essays. Essays for competition must be sent to the Chairman of the Committee, Dr. George F. Shrady, 247 Lexington Avenue, New York, N. Y., on or before December 20, 1886.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The Fourteenth Annual Meeting of the Society was held at Toronto, Ontario, during the week ending October 9, with the President, Dr. H. P. Walcott, in the chair. The Lomb Prize Committee reported that no prizes would be awarded, no essays or plans of sufficient merit having been offered. The following officers were elected: *President.*—Dr. Geo. M. Sternberg, Surgeon, U. S. A. *Vice-Presidents.*—Prof. Charles N. Hewitt, Secretary State Board of Health, Minnesota; Prof. C. A. Lindsley, Yale College, Connecticut. *Secretary.*—Dr. Irving A. Watson, of Concord, N. H., re-elected. *Treasurer.*—Dr. J. Berrien Lindsley, of Nashville, Tenn., re-elected.

A CASE OF SUBSTITUTION.—Messrs Battle & Co., of St. Louis, report that Dr. George Springer, of Van Buren, Ohio, has communicated to them that a sample of so-called "bromidia" which he purchased at Findlay, in that State, was a spurious preparation. In a case of insomnia under his care it required no less than seven drachms of this spurious article (a dose of one drachm being repeated hourly) to produce sleep, while in the same patient it required but one drachm of a genuine sample, procured directly from the manufacturers, repeated in one hour, to procure a good night's rest.

DEATH OF MR. GAMGEE.—Joseph Sampson Gamgee, M. R. C. S., F. R. S. E., the celebrated English surgeon, died September 18, at his residence in Birmingham, at the age of fifty-eight.

THE FEVER AT BILOXI.—On October 17, the State Board of Health of Louisiana ordered a quarantine against Biloxi and the whole of Harrison County, Miss.

CHICAGO MEAT.—In view of the outbreak of pleuro-pneumonia among cattle in Chicago, the Board of Health of this city have ordered a rigid inspection of all meat received from that city.

THE CHOLERA IN EUROPE.—Cholera still seems to be prevalent in Austro-Hungary. A dispatch from Vienna, dated October 19, states that during the previous twenty-four hours nineteen deaths and forty-seven new cases were reported at Pesth, and one death and seven new cases in Trieste.

EDITORIALS.

THE TREATMENT OF EPILEPSY.—As epilepsy is, unfortunately, a disease which almost every practitioner is called upon to deal with, and as the cases not infrequently prove very intractable, as ordinarily handled, it may be of service to some at least of our readers to take a glance at the most approved methods of treatment at present in vogue, as set forth by one who is an acknowledged authority on this subject. In a recent number of the *Neurological Review* Dr. J. S. Jewell, of Chicago, gives a very clear and satisfactory exposition of his views on the treatment of epilepsy; and as they are the result of very careful study and a long and widely extended practical experience, they can be received with entire confidence.

Important progress has undoubtedly been made of late in the management of the formidable disease in question, and in summing up the results of his rich experience Dr. Jewell says: "In looking over the results I have obtained, I do not know that I can say many cases have been cured, in the ordinary sense of that word; but I can truly say that the course of the disease has been greatly and favorably modified to an extent to which I had been formerly a stranger in my experience."

After having ascertained by most careful inquiries the hereditary antecedents of a patient, as to the presence or absence of neurotic strains that could predispose to the disease; and after having inquired minutely into the whole health history of the patient, as regards injuries done during birth in the course of severe labors involving the use of instruments, and falls and injuries of all kinds and descriptions by which the brain or spinal cord may have been injured, or by which lesions of nerves could have occurred; after careful inquiry as to the habits and occupations of the individual, as to the state of the genito-urinary apparatus, and all incidents, abuses, and the like, respecting those organs; after inquiring minutely into the condition of the digestive apparatus, from the mouth through to the outlet of the large intestine; after having inquired into the natural mode of invasion, frequency, duration, and whole history of the disease, from its first beginnings to the moment of study; and after trying to determine the nature, and so far as possible the cause, of the epilepsy—he has found the following described course to be the most successful:

1*st*. *The use of the bromides.* There can be no question but that this class of medicinal agents out-ranks all others in point of efficiency; but in the course of his experience he has found how important it is to give close attention to the special kind of bromide, the amount given, and the time of giving it.

2*d*. *As to the kind of bromide to be preferred.* After an extensive and careful trial of all the principal agents of this class, he has at last been guided by experience to the almost exclusive use of the bromide of sodium. The sodium salts, as a whole, are known to be less toxic in their properties than are the potassium salts. In a few cases, vigorous in health aside from the epilepsy, and in which there is a marked tendency shown to the formation of neoplasms under slight provocation, he has given the potassium bromide. But at present his custom is to give rather the sodium bromide, introducing potassium iodide when it seems specially desirable to have the benefit of the potassium compounds. The cautious but persistent use of the iodides is often attended by excellent results. Unless there are special reasons why these agents should not be employed in any given case, he usually seizes the first favorable opportunity for their prolonged use, varying in different cases as to the dose given and the duration of the treatment. Of course, in cases of syphilis, whether hereditary or acquired, the iodides are always used, or, if not, iodoform or mercurials. The iodide of sodium is not devoid of alterative qualtities, and is therefore to be preferred, on the whole, to the iodides of other bases that do not, as the sodium does, form a large natural constituent of the human body.

Next in order comes the question of the quantity of bromide to be administered at a given dose. Twenty grains may be regarded as, on the whole, an average dose for the adult; ten grains, an average dose for patients over six or eight, and under fifteen, years of age.

3*d*. *As to the frequency of the dose.* Dr. Jewell has never, as a rule, found it necessary to administer the remedy oftener than three times in twenty-four hours, although there are exceptions to this rule. The first dose is never given in the morning, except to arrest a morning or forenoon attack. In case of the attack coming on toward two or three o'clock, or later, in the morning, while the patient is asleep, he should be aroused, if need be, by the aid of an alarm clock, to take the first dose of bromide, so that its influence may be had at such time as to meet and prevent the attack; otherwise it is simply taken about a half-hour before rising. Patients are then to lie quiet and permit the remedy to exert its influence before they rise. If the attack is observed to come on always of mornings, it must be obvious, upon a little thought, that to give a morning dose, a noon dose, and an evening dose, all of them after the morning attack, is not the best way to proceed. The patient is then to be aroused early enough in the morning to take a massive dose of the bromide, so as to prevent the morning fit, and given no more until the next morning.

It is the duty of the physician, in the protracted use of these medicinal agents, to seize every practicable opportunity to withdraw them, so as to preserve, as far as possible, the susceptibility of the organism to their action. Dr. Jewell has come to lay far less stress on the curative than upon the preventive action of the bromides. He does not wish to undervalue the former; but the broad fact stands out clearly, in the general experience of the profession, that the use of the bromides, as a rule, does not lead to the *cure* of epilepsy. Nothing, however, is better established than the fact that the judicious employment of this class of remedies mitigates the severity, and for shorter or longer periods in time prevents the attacks from appearing. He has no doubt himself, at least, that their preventive rather than curative action is the important one. Hence, in cases where the attacks occur, for instance, at the menstrual period, and not otherwise, it is now his habit to omit the use of the drug during two weeks of the month, unless by careful observation it is found that the continuous action of the bromide is necessary to secure the best results. But during the interval between the menstural periods (using this class of cases as an example to illustrate the point), it is his custom to diminish the dose; for otherwise it often happens, with persons of weak nutrition, that the depressing influence of the bromide seems actually to retard recovery by diminishing the reparative power of the organism. Cases are not infrequently met with in which it seems a better plan to permit the patient occasionally to have a mild seizure than to carry the action of the drug to a point where the fits are temporarily stopped at the expense of the organism in general.

4th. Besides the use of the bromide of sodium, he gives a variety of other drugs to meet special indications, the most important of these being cannabis indica. Dr. Jewell's observations in regard to this drug are of interest and value, and his reference to it is therefore quoted entire: " I have found it to be a curative agent of the highest order, *when properly administered*, in cases of migraine, or hemicrania. For, unless associated with, and to an important extent dependent on, incurable organic disease of the nervous system, I have found the last-named drug almost a specific for sick headache, provided suitable hygienic care is taken. I have yet to meet, these later years, with an uncomplicated case of this disorder that has not been cured, or at least greatly ameliorated, by the use of the cannabis indica. Migraine sustains exceedingly close relations pathologically to epilepsy. It is a result of my experience that the persistent use of the drug now referred to, for one or more years, exerts a highly important good influence in the mitigation of epilepsy, when placed side by side with the bromide of sodium, the latter being cautiously administered as already described. In order to receive its full benefit, it must be given not less than three times a day, in doses sufficiently large to begin mildly to produce its ordinary physiological effects. By this I do not mean that one shall be kept in a haschish delirium, but simply that the dose of the drug should be cautiously advanced until one finds out what the limit is of physiological toleration; ever afterward let the dose be kept up near this limit. It should be given always after a meal, and the best mode of administration is in a little capsule or pill separate from the bromide itself. It should be given steadily from one to two years, and, as I have said, not less than three times a day, the last dose at bedtime. If not given so as to maintain its influence steadily on the nervous system, I have not found its use, to any considerable extent, beneficial, certainly not if it is given for a few weeks or months only. I wish to repeat that I consider the use of this drug, in the manner described, of so much importance that I never think of neglecting it in cases in which it can be administered. It is necessary, however, to give the closest attention to securing the most reliable preparation of the medicine. It should be obtained, as nearly as possible, fresh from the laboratory of some one of the best manufacturing pharmaceutists. It can then be made up into pills, or put into capsules, suitable for administration. These should always have combined with the drug in them a little salicylic acid, or boracic acid, or thymol, or a little carbolic acid, for the purpose of preventing destructive fermentation of the extract. Great pains, however, should be taken to secure a thoroughly soluble coating of the drug; otherwise it is liable (as I have known to happen) to pass out of the stomach with the food, and reappear in the stool one or more days afterward, being only partially dissolved. So great has been the difficulty on this account, with not only this but all classes of extracts that are put within capsules, or coated in various ways, that I have in these later years learned to rely more and more upon liquid forms of remedies. Nevertheless, with great care an entirely soluble pill or capsule can be formed; many such are upon the market at present."

For counteracting in some degree the depressing influence of the bromide, he has found the most satisfactory agent to be digitalis, which is useful in steadying the heart's action. Where sleep is unsatisfactory, he employs ten grains of chloral hydrate at night, and also at times during the day he has found it necessary, when the patient is, from any cause, the subject of much strain or excitement, to give an occasional dose of this agent to diminish the sensibility of the nervous system, particularly its reflex excitability. Latterly he has used, instead, moderate doses of *Urethan*. And it has seemed to him, in about one-third larger doses, to be in important respects preferable in these cases to the chloral. Dr. Jewell makes it a rule to associate with the bromide some preparation of conium. It is difficult to obtain reliable preparations of this drug, but the usual menstruum for the bromide is the most reliable specimen he can obtain of the *succus conii*. When the preparation is active it exerts the kind of sedative influence theoretically required in epilepsy. Next in order he has found counter-irritation of importance. Upon the whole, the best form is that of alternate setons; first one on this side, then one on that. It is not necessary, though best, that they should extend above the level of the collar. They should be employed steadily for, say, one year at a time, and be sufficiently large to give rise to no inconsiderable degree of irritation. The thread should be, of course, carefully cleansed daily with antiseptic solutions, and, at the faintest approach of erysipelatous inflammation, a strong local antiseptic treatment should be immdiately adopted. A seton may be kept open on one side of the neck for three months, and then another placed on the opposite side of the spine at a higher or lower level than that occupied by the former. The needle should be passed from above downward, or from below upward, instead of toward or from the spine.

In cases in which the pupils are very large, and in which the heart's action is weak, besides the digitalis he usually gives a reliable preparation of the physostigma. There are cases, however, in which the extremities are disposed to be cold, and at the same time the pupils comparatively small. In such he has often observed there is a free flow of saliva, particularly during the sleeping hours; and in all such he has employed, apparently with benefit, sufficiently large doses of belladonna to diminish the flow of saliva, and produce an influence on the pupils. The drug, as a rule, is given at night, and thus acts during the sleeping hours.

Such is the staple treatment he has found useful in the vast majority of cases of epilepsy; but he has found it impossible to lay down a plan of treatment that it is safe to apply to any case without carefully observing the effects of the remedies, and adapting them, from different points of view, to the case in hand.

As to the prevention of attacks, nothing that he is aware of is entitled to special consideration except the amyl nitrite. In those cases with distinct prodroma, it is possible to employ this agent with benefit, that is, if promptly and thoroughly used; but this, in the necessities of the case, must be left, as a rule, to be applied by the patient. If ten seconds to a minute of warning is given the patient, the agent may be used with the result of frequently aborting the fit. Or, in case of nocturnal epilepsy, if the patient has a bed companion, and the circumstances are of such nature as to rouse the watcher before the fit occurs, the drug may be employed. In the present paper Dr. Jewell does not treat of the various forms of surgical interference, such as operation for phimosis, excision of the clitoris, removal of scars, trepanning the skull, dividing nerves, nerve stretching, or even the graver operation of tying the vertebral arteries, which may be called for in special cases.

5*th.* He comes next to the question of hygienic management of epileptics. This he considers, taken as a whole, to be nearly equal in importance to the more purely medical and surgical treatment. Under this head he notes:

(1) *Diet.* He has found it necessary to make the most minute inquiries as to the articles of food taken; the quantity used; the frequency of taking food; the condition of the stomach about the time of the epileptic attack; the condition of the bowels below, more especially the degree of dilatation and overfilling of the colon, or, in other words, everything that relates to the state of the bowel as respects constipation prior to and at the time of the fit; also as to the presence or absence of a distinct aura, referable to the stomach, or to the abdomen below the stomach. He has inquired minutely in respect to the presence or absence of nausea, connected or not with vertigo; as to the flow of saliva prior to or during the fit, and so on to the end of the list; and he has found at least nine out of ten attacks to be preceded or accompanied by marked evidences of disturbance of the digestive organs, and in such a way as to leave no doubt, or but little, that the latter were connected with the former in a casual way. It has become his custom, therefore, in all cases of epilepsy, particularly in the group now under discussion, to direct the adoption, for the first three months, of about the following diet list, with due reference, of course, to personal peculiarities, or idiosyncrasies, and the like: He has totally proscribed iced drinks; as a rule alcoholics of every kind; also strong coffee, except a cup before or at the morning meal, in cases in which it seems to agree. If tea is taken later in the day, or even in the morning, it is not permitted to "steep" more than six minutes, is then poured off the leaf and drank, with the least quantity possible in it of tannin. Drinking of pure water, either hot or cold, is strongly advised during the first hour or so before a meal, so that the alimentary canal itself, and afterward the blood and tissues, may be kept as nearly as possible saturated with pure water, to facilitate the dissolution and removal of waste material. The water may be had at slight expense in any part of the country, by a simple tin distilling apparatus, with a kerosene lamp placed under it; the

rest of the mechanism being formed in the usual way, by a little coil of metal tube running downward through a keg or vessel of cool water, so that the distilled water may be collected in a bottle, or any other convenient holder. It is his custom to utterly forbid the use of such drinks as lemonade, because, in the first place, in many of these cases even the stronger organic acids affect unfavorably the mucous membrane of the stomach, and, because, even if this is not true, it is possible thoughtlessly to take an excessive, or even harmful, quantity of any acid. He also entirely prohibits the use of uncooked fruits and uncooked vegetables, with the exception that a very few raw tomatoes may be taken without vinegar, dressed with a little oil, pepper and salt, and perhaps the addition of a few drops of lemon juice, or, with or without the lemon juice, a little sugar. The pulp of a sweet grape, omitting the coarser material of the same (the seeds and the skin of the grape), is permitted in great moderation; but no sour grapes of any kind during the first three months of treatment, and better as a rule never. A little celery, if very tender and thoroughly well chewed, is permitted; or a little very tender lettuce, not exceeding a few leaves, dressed with oil, a few drops of lemon juice, or sugar with the lemon juice, and then thoroughly chewed during a meal. But the least taken of such almost completely valueless articles of diet, from the nutritive standpoint, the better. A very small amount of thoroughly ripe watermelon, or of a cantaloupe, is permitted; but beyond this all other kinds of uncooked fruits are forbidden, such as apples, bananas, peaches, pears, berries of every description; all dried fruits such as figs, raisins, etc. Of cooked fruits and vegetables the following only are permitted: Irish potatoes, French peas (both in moderation and thoroughly ripe); comparatively sweet apples baked, or the same stewed; stewed prunes, or a little peach sauce. Such, upon the whole, makes up the vegetable and fruit diet list during the first three months. Mashed turnips may be admitted, and, if the digestion is comparatively strong, a sweet potato may be used. All pastries, all rich puddings, rich cake, hot breads and pancakes are stricken from the list. Fried articles of diet, and salt meats of every description, are to be, as a rule, set aside. Confections, nuts, etc., are all to be laid aside. The patients are directed to adhere to a diet very moderate in quantity—once, or at most twice a day fresh, simply prepared meats, such as beef, mutton, lamb, fresh fish, boiled or broiled; oysters, eggs, milk; butter in marked moderation, all the more so in the case of patients who have occur easily the bromide acne, or who have, independently of the effect of the bromides, a disposition to diseases of the skin; the best of light wheat bread, stale, either white or graham; thoroughly well cooked mushes of oatmeal and graham flour, and the like; crackers; boiled rice, either plain or in a pudding; plain bread pudding; chicken fricassee; tender venison; fresh game simply dressed, in great moderation. Such, upon the whole, is the diet list, from which selections are to be made for one meal. Food is to be eaten slowly, and entirely without drinks *during the meal.* The patient should depend entirely on the saliva for moistening the food sfficiently to be swallowed. Even small children are to be kept within the limits (if anything more strictly than adults) of some such list, so that no more than three to six articles enter upon a list for one meal. As far as practicable, a determined and persistent effort should be made to ascertain the kind of food that can be easily borne by the stomach, so that, at the end of three months as a trial, though some flesh may be lost, yet the strength shall remain intact. In some cases, either during a state of emotional excitement, or after a simple meal, the stomach very suddenly becomes filled with excessively acid gastric juice. The acid found in such excess is usually lactic. But the effect of this sudden and highly acid secretion, upon the irritable mucous membrane of the stomach, is so powerful at times as to excite, or tend to excite, a fit. At any rate, the digestion of food is greatly embarrassed, if not entirely prevented for the time being, and in this state it passes down into the digestive tube below, its acidity to be imperfectly neutralized by the bile. In many of these cases digestion takes place slowly, and the time that should elapse between meals should be made the subject of study. Occasionally it is necessary to permit of only two meals in the twenty-four hours, one quite early in the morning, the other in the middle of the afternoon.

The next point to which he directs attention in the hygiene of the digestive tube is that of keeping the bowels free. In the vast majority of cases of epilepsy he has found not only a disposition toward, but the actual fact of constipation, and as the period approaches for the fit, it is found, as a rule, that the colon becomes more and more full of fæcal matter. In many instances, gases are formed from the fermenting materials, which distend the bowel, put its walls, and, by consequenee, its nerves, upon the stretch, without escaping through the rectum, or the gas is propagated along the course of the bowel, to be expelled in the ordinary way.

But the most important factor in the class of cases now referred to consists in the detention, to an unhealty degree, of fæcal matter. The fæcal matter not only proves mechanically but chemically irritant to the mucous membrane of the bowel, and, by consequence, to its nerves. The longer this condition exists, the more marked the distention and irritation of the bowel is, until at last (in quite a large number of cases) it rises to that pitch that makes a fit possible. Besides this, more or less of unhealthy matter is absorbed into the blood from the fermenting fæcal masses detained in the colon, and this matter (as is now known) may be very various in kind, and, at the same time, highly toxic to the nervous system. It seems to him hardly necessary to insist on the very great importance of keeping the colon free in this class of cases; for this portion of the intestinal tube receives a large contingent from the splanchnic nerves, not to mention others, and hence has ready access to the upper part of the spinal cord and medulla. Many of the patients suffering from the unhealthy condition of the colon just described will state that they have had movements from the bowels for years at about the same hour each morning; or, to use their own expression, will say, "I am as regular as clockwork, Doctor." Dr. Jewell never permits himself to be satisfied until such persons, lying down fairly upon the back, with the limbs drawn up, and the walls of the abdomen relaxed, have been thoroughly tested by inspection, palpation, and percussion, the latter done by a heavy steel percussion hammer used to strike on a thick, soft rubber eraser of ink or pencil marks. The condition of the rectum is also to be carefully looked after.

It is customary to administer a variety of purgatives, vegetable or mineral, in form of pills, powders, mineral waters, and the like, to secure emptying of the colon, but he has, as a rule, ceased the use of such means to accomplish the purpose in question. His plan is to give, in cases where there is evidence of weakness of the colon, a pill at night, consisting of a portion of aloes and extract of belladonna; and, if the pupil of the patient is habitually large, he adds a suitable proportion of the physostigma, and to this nux vomica; and, where there are strong "bilious" signs, to the same pill is added a laxative dose of some mercurial. In some instances a suitable dose of extract of ergot is added; as, for example, a one-grain coated pill of the latter drug is given with the pill already named. This latter, it is to be observed, is not so much intended as a purgative, in the ordinary sense of the word, as a means for exciting the nervomuscular apparatus of the colon. In a large proportion of cases, however, he finds this not sufficient to insure emptying of the colon, and his plan then is to use voluminous injections of warm water, in which a little epsom salts, or common table salt, is dissolved. He employs a fountain syringe, of rubber, and the reservoir is placed sufficiently high over-head to admit of a considerable, but not painful, degree of pressure, to be produced by the descent of the water through a long rubber tube, armed at its lower extremity with a rather long injection pipe or tube, in the closed end of which a hole is made as large at least as the bore of the tube itself, so as to provide for free delivery. After inserting the oiled or soaped finger through the sphincter ani into the cavity of the rectum, the tube is inserted as high up as it can well go, and, when practicable, the patient is directed to recline on the knees and chest, so that the posteriors are higher than the rest of the trunk. The check on the rubber tube (to prevent the outflow of the water until ready) is now opened, and from one pint to a half-gallon of the warm water is permitted to flow into the rectum. From ten to thirty minutes should be taken to thoroughly empty the bowel. More or less of the liquid will pass away, carrying but little material with it; but, by a little persistent "massage," beginning at the cæcum,and following the transverse and descending colon, not only the water, but fæcal masses, may be gradually pushed, squeezed, and by varied manipulations conveyed around the entire circle of the colon down to its sigmoid flexure. Over this part of the colon and the lower half of the descending colon above it, the downward kneading, pressing action should be done with exceeding thoroughness, with the ends of the fingers, using both hands, and at the same time leaning forward at stool so as to diminish as much as possible in size the cavity of the abdomen. If the time and opportunity are not to be had of mornings, this process of emptying the colon should be used before going to bed. It will be much facilitated by taking, from eight to twelve hours before the above-described operation is done, one of the laxative pills above described; for the colon responds much more actively when under the stimulus of the aloes and other drugs contained in the pill. At any rate, by persistent use of the means described one may remain entirely free for years from what are called "bilious" attacks, and, as Dr. Jewell has had abundant opportunity to demonstrate, one of the most common causes for exciting epileptic attacks is removed, and may be kept entirely out of the way.

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In many cases it is not only desirable, but entirely practicable, to cease the use of drugs to purge the bowels. Where the colon is much weakened in its muscular coat, and chronically dilated, it can not possibly be fully emptied by such means, and he is thoroughly convinced that no other point in respect to the hygiene of epileptics more worthily challenges the persistent attention of the physician than the one just referred to. In cases where there is reason to believe filling up the bladder with urine, and unusual distention of the seminal vesicles, irritate the organs in question, and by consequence the copious nerve-supply of the same, he is accustomed to direct at least that the bladder shall be emptied at an earlier period than that upon rising, so as to anticipate the fit. In bad cases of epilepsy, in females, in which by consequence marriage is out of the question, he has been led to seriously consider the desirability of re irritable mucous membrane of the stomach, is so powerful at times as to excite, or tend to excite, a fit. At any rate, the digestion of food is greatly embarrassed, if not entirely prevented for the time being, and in this state it passes down into the digestive tube below, its acidity to be imperfectly neutralized by the bile. In many of these cases digestion takes place slowly, and the time that should elapse between meals should be made the subject of study. Occasionally it is necessary to permit of only two meals in the twenty-four hours, one quite early in the morning, the other in the middle of the afternoon.

The next point to which he directs attention in the hygiene of the digestive tube is that of keeping the bowels free. In the vast majority of cases of epilepsy he has found not only a disposition toward, but the actual fact of constipation, and as the period approaches for the fit, it is found, as a rule, that the colon becomes more and more full of fæcal matter. In many instances, gases are formed from the fermenting materials, which distend the bowel, put its walls, and, by consequenee, its nerves, upon the stretch, without escaping through the rectum, or the gas is propagated along the course of the bowel, to be expelled in the ordinary way.

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THE ANNUAL MEETING OF THE FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION.—The recent annual meeting of the Fifth District Branch of the State Association, which was held in Brooklyn on the 12th of October, was well attended and full of interest. The address of the genial President, Dr. J. G. Porteous, of Poughkeepsie, which appears in our present issue, was to a considerable extent congratulatory, but was also practical and suggestive. Dr. Joseph C. Hutchison, the eminent surgeon of Brooklyn, and ex-president of the Branch, paid a fitting tribute to the illustrious and lamented Hamilton, which, with the scholarly paper by Dr. Carroll, lately Secretary of the State Board of Health, on leptomeningitis in children, the great scientific value of which depends largely on the personal pathological researches of the author, will also be found in this number of the JOURNAL. The Fellows listened with rapt attention to the graphic recital of his "Impressions of Medicine in England" during a recent visit there, by Dr. Avery Segur, of Brooklyn, and received with warm approval the earnest plea for pure milk by Dr. H. A. Pooler, of Goshen, Orange County, the interest of whose remarks was greatly enhanced by the beautiful screen illustrations of micro-photographs exhibited by Mr. E. W. Martin, Ph. D., Chemist to the Board of Health. While a vast deal still remains to be done in the way of reform as regards the milk supply of our large cities, much has already been accomplished through the energetic and self-sacrificing labors of Dr. Pooler and other workers in this noble cause, and there can be no doubt that, as Dr. Squibb remarked in the course of the lively discussion which the paper excited, there has of late years been a very material improvement in the character of the milk brought to New York, Brooklyn, and Jersey City.

The contributions of Drs. Segur and Pooler will both appear in the December number, and it is with great pleasure the announcement is made that at this meeting it was decided, on the recommendation of the Executive Committee, that hereafter all papers read before the Fifth District Branch shall be published in GAILLARD'S MEDICAL JOURNAL. By an alteration in the By-laws which now goes into force, the date of the annual meeting has been changed from the second Tuesday in October to the fourth Tuesday in May, the reason for this being the fact that when held in October the annual meeting of the Branch comes only one month before that of the parent Association. It is needless to say, in conclusion, that the accomplished and efficient Secretary, Dr. E. H. Squibb, of Brooklyn, was once more re-elected.

ANOTHER TRIUMPH FOR MR. HORSLEY.—The *British Medical Journal* of October 2 announces another successful case of excision of a cerebral tumor by Mr. Victor Horsley. The patient was a man who had been absolutely hemiplegic for a month, and had passed into a semi-comatose condition; before these symptoms developed, he had endured terrible pain in the head, and had suffered from fits. On September 23, Mr. Horsley trephined over the motor region of the right hemisphere, and, after enlarging the aperture made by the trephine, succeeded in removing a large tumor from the brain; the tumor weighed four and a half ounces, was three inches long, two and a half inches broad, and two inches deep. On the day after the operation the patient was perfectly rational, and even amusing in his conversation, and said that he was quite free from pain. On September 27, the wound was entirely healed, and the man had recovered some power in his leg. This, it will be remembered, is the fourth case in which Mr. Horsley has operated successfully on the moter cura of the cortex of the brain; the three earlier cases, which were described in his remarkable paper before the surgical section of the British Medical Association at Brighton, having been referred to in the last number of the JOURNAL. As was then pointed out, his results constitute a real triumph for scientific surgery. Not only, comments the *British Medical Journal*, have the facts upon which the diagnosis of the seat of the lesion in these cases rests been discovered by experiments on lower animals, but the details of treatment have also been worked out in the course of these experiments. The complete success of the surgical method followed is demonstrated by the fact that, in two of the cases, the wound healed in four days; that, in a third, it had healed in a week; and that, in the case which was in this respect the least successful, the whole of the wound, with the exception of one-sixth, healed by first intention.

THE INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.—Mr. J. B. Bailey, librarian of the Royal Medical and Chirurgical Society, who read a valuable paper at the annual meeting of the Library Association held at Plymouth, England, in September, which was concerned with the best mode of classification for scientific and medical libraries, paid a deserved tribute to the index catalogue of our great medical library at Washington. Having spoken of shelf classification as practically useless, especially with regard to the periodical literature of the day, he went on to say: "With a good index catalogue all the chief periodical literature can be laid before the student, and I venture to think that no catalogue has yet been issued in which this has been so thoroughly and so well done as in the Index Catalogue to the Surgeon-General's Library at Washington."

The seventh volume of the Index Catalogue, which extends from "Insignarès" to "Leghorn," has just been issued, and like its predecessors, which have all been prepared under the supervision of Dr. J. S. Billings, it is a model in its way. An immense amount of labor is involved in the compilation of a work of this kind, so complete in every detail, and in the present volume are comprised no less that 70,500 book titles and 254,000 journal articles. By it the value of every medical library of any extent in the country is immeasurably enhanced to any one who has occasion to look up the literature of any special subject.

THE PREVENTION OF RABIES.—Whether the method of M. Pasteur should eventually prove successful or not, it is hardly probable that it will ever be practicable to rigidly enforce inoculation of all dogs against the disease, and something more is therefore needed for its efficient prevention. In a paper read in the Section of Public Medicine of the British Medical Association at Brighton, and recently published, Dr. Norman Kerr recommended the adoption of two plans, the one the complement of the other, which, if rigorously executed, would, he claims, effectually stamp out the disease. These he describes as follows: "The one is the muzzling of all dogs, as is carried out in Prussia, where, in consequence, there has been no case of canine madness for a long time. The muzzle ought to be of a pattern approved by the authorities, and should be constructed to prove as little irksome to the wearer as possible, while absolutely hindering the dog from biting. The muzzling of dogs in London rapidly reduced the number of cases of rabies and hydrophobia. In November, 1885, there were fifty-eight cases of the former, and five deaths from the latter. In the early part of December, the order for muzzling dogs was enforced, and, in that month, the number decreased by twelve cases and four deaths. So effective was the muzzling, that the numbers fell in January, 1886, to twenty-seven cases of rabies, and one death from hydrophobia ; and in February to fourteen cases and no death. Had this measure been in force throughout the kingdom, the results outside the metropolitan area would probably have been as satisfactory. The other proposed regulation is that all dogs, muzzled or unmuzzled, wandering about, and not under control, should be arrested and taken to a hospital or house of rest, where they could be claimed by their owners within a certain limited term of days. All dogs with suspicious symptoms, or unclaimed, or not otherwise properly disposed of, should be disposed of by Richardson's painless process. By these measures, effectively enforced in the provinces as well as in the metropolis, the fearful malady of hydrophobia would very soon be all but unknown in our midst." In connection with this paper it may be noted that the Privy Council have now published two orders under the Contagious Diseases (Animal) Act dealing with rabies and anthrax, which prescribe the duties of local authorities and their officers. The regulations which can now be made for muzzling and controlling dogs are very comprehensive, and they will doubtless prove of considerable value. It is doubtful, however, whether in England such a general muzzling of dogs can be carried out so thoroughly as to entirely prevent the occurrence of rabies ; and in this country it would be next to impossible. While such regulations could be enforced in the cities and larger towns, it is hardly likely that such should ever be the case in rural localities.

DR. MOORE'S RETIREMENT.—The withdrawal of Dr. E. M. Moore, the distinguished President of the New York State Medical Association, from the State Board of Health, is a very serious loss to the whole community, and much to be regretted. Since the organization of the board, in 1880, he has been its efficient head, and his wise counsels and the active personal labor which he expended in its behalf have always been of inestimable value. The tax upon his time was very great, however, and it is doubtless true that, with the extremely limited appropriations at its command, and the hampering political influences to which it was often to a greater or less extent subjected, he felt that it would be practically impossible to carry out those broad and comprehensive views which he entertained for its legitimate and proper work in the administration of the sanitary affairs of the State.

NEW YORK STATE MEDICAL ASSOCIATION.—At the time of going to press the programme of the third annual meeting of the State Association, which occurs during the coming month in this city, has not been received ; but it is learned that there is every prospect of a large and successful meeting, and, judging from the number and scientific interest of the papers and addresses read at the two previous gatherings, there can be little doubt that the session will be a most important and attractive one.

SPECIAL OFFER.—New subscribers for 1887 sending in their names now will receive the last three numbers of the present year free. Canvassers for the JOURNAL are wanted in all parts of the country, and liberal commissions will be allowed.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLIII. NEW YORK, DECEMBER, 1886. No. 6.

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ORIGINAL ARTICLES.

ARTICLE I.

SOME RECENT IMPRESSIONS OF MEDICINE IN ENGLAND.* By AVERY SEGUR, M.D., Brooklyn, N. Y.

Our first impressions of English medicine begin with our anatomy and physiology. In my student days it was Wilson and Carpenter. Then we read

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* Read at the Second Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, October 12, 1886.

Watson and Erichsen. With these on the heights of knowledge were our teachers, the professors, who seemed to be possessed of so much science and learning, lifted far above our depths of ignorance, and seen in a glorified mist—the mist exhaling from our own low ground, and the glory shining from the worthies above. How shocking seemed the levity of a few irreverent and irrepressible spirits in the lecture room, even in the absence of professors; and now I cannot pretend that my recent impressions received during a somewhat lengthy sojourn in Great Britain are free from the earlier influences of the master-writers who at once taught the facts and principles of our profession and exemplified the clearness, precision, conciseness, and elegance of English composition. I know that in my habits of thought all of the English practitioners are covered with mantles not their own, and our earliest impressions of English medical men are not suffered to fade with the flight of time. It is quite unnecessary to name the succession—Wilks, Paget, Lister, Roberts, Ringer, and many others, together with the periodical intercourse of English medical journalism, diffused at large, in this country, by original circulation and reprints, which ever keep us in the attitude of students and disciples of the masters.

I do not attempt, then, observations of any independent or critical value—indeed it has seemed to me that all that has been claimed in behalf of a common literature, as uniting English-speaking peoples, applies especially to medical men and medical literature, and that American physicians go to England with an excellent and exceptional preparation for understanding men, institutions, and life generally, in Great Britain. The free and cordial reception extended to us by the profession there may be the reflex of our own feeling for "Our Old Home," with which we have kept up such constant correspondence. I may here say that all the public activity of the profession in Great Britain was open to me on presenting my visiting card. I have never used nor felt the need of a personal introduction. At the great annual meeting of the British Medical Association, at the meetings of the medical societies in London, at hospitals, at lectures, and at the Royal Colleges, the stranger not only has admission, but is invited to take part in the proceedings. On the common ground of the absorbing interest of our pursuit, viz., that of observation and experience in one field of nature, intercourse is easy, spontaneous, natural. Instruction may be mutual, and one feels that it would be a pleasure to reciprocate the attentions received. Perhaps one word more may be said in this introduction—for I hope that it will become very common for our hard-working, much-confined doctors to seize the opportunity of an August meeting of the British Medical Association, which holds from a Tuesday to Friday inclusive, to obtain the benefits of a vacation, an ocean voyage, and a delightful social gathering. What I wish to say is, I have found the British practitioners very pleasant men to meet; in their public professional discussions I have seen them as straightforward, direct, plain-spoken, and I may say, as boisterous as boys, but no offence has been taken. They are not thin-skinned, and after they have spoken in public there does not seem to be anything left to be said behind the back. I was first surprised, and then delighted, to see how the natural method worked to silence "bores."

Dress, speech, manners, all seemed to indicate absence of show, abundance of time, a free and contented mind, and entire physical, moral, and intellectual accord with their calling and condition in life. The unpretentiousness was marked, and to me exceedingly pleasing; I frequently reflected upon it, both comparatively and as to its sources. I venture only two suggestions: 1st. Social position is fixed and secure, and it is also predetermined. It is good, but not at the top of the social scale, and expenditure of earned or unearned money will not avail. When neither house, nor furniture, nor equipage, nor any other display can much aggrandize or flatter vanity, what a temptation to pretense is man delivered from! 2d. It will appear, when I come to the matter of education, how adequate is the preparation of every registered practitioner in Great Britain for the duties and responsibilities of his daily work.

Trafalgar Square is to me the most interesting place in the Great Wonder—London. Around it stand the monuments of a nation's heroes—Havelock, Napier, and others—world-men indeed! Nelson's monument most adorns it; the harmonious column delights the eye and leads it up to the statue of the hero, and to the stars. Around the base are Landseer's sleeping lions, fit emblems of a kingdom's repose in conscious strength. From this square you may go by the famous Strand, and Fleet Street, to Temple Bar, St. Paul's and the City. Near by is Westminster Hall, where the old parliaments, courts, and coronation feasts were held, the magnificent pile of the Houses of Parliament, and Westminster Abbey. Fronting the north side of the Square is the National Gallery of Paintings. On the north-west corner stands a large public building, which I had many times seen and passed in the rapid and crowded movement of human life amid these impressive national and historical structures, before I learned that it belonged to "The Royal College of Physicians." I had a very vague but sufficiently exalted prepossession of the dignity of this body, but as little knowledge of its living members as of the dead Linacre—its founder, in 1518—whose effigy, in the solemnity of smoky stone, surveys the passing throng. A brief account of this ancient institution and most august embodiment of English medicine will conveniently introduce the sketch I shall try to make of the education and organization of the British medical profession. In the Encyclopædia Britannica I find that Thomas Linacre, physician of Henry the Eighth, the founder of the Royal College of Physicians, was born 1460; died, 1524. Like many English physicians, he was distinguished in other pursuits than the healing art. Entered at the University of Oxford, he was soon elected a Fellow of All Souls College. Shortly after he visited Italy. There his teachers and friends at Florence and other cities were men eminent as scholars. At Padua he took the degree of M.D. with great distinction. "On his return to Oxford, full of learning and imbued with the spirit of the Italian Renaissance, he formed one of the brilliant circle of Oxford scholars who are mentioned with so much warm eulogy in the letters of Erasmus." In

501 he went to London. As King's physician, an office of influence and importance, he practiced in London. Most of the great statesmen and prelates, as Fox and Wolsey, were among his patients. Literary labors at the same time made for him a career as a scholar. His teachers were some of the greatest scholars of the day.

"He was one of the first Englishmen who studied Greek in Italy, whence he brought back to his native country and to his own University the lessons of the 'New Learning.'" "Among his pupils was one Erasmus, whose name alone would suffice to preserve the memory of his instructor in Greek, and others of note in letters and politics—such as Sir Thomas More, the lamented Prince Arthur, and Queen Mary."

"Eminent scholars were his intimate friends, and he was esteemed by a still wider circle of literary correspondents in all parts of Europe."

Passing over his activity in the direction of pure scholarship, it is more interesting to us as physicians to note his medical works. "It was the cherished project of his life to make the works of Galen accessible to all readers of Latin." It may be of interest to give the titles of Galen's works translated by Linacre:

(1) De Sanitate Tuenda, printed at Paris in 1517; (2) Methodus Medendi, Paris, 1519; (3) De Temperamentis et de Inæquali Intemperie, Cambridge, 1521; (4) De Naturalibus Facultatibus, London, 1523; (5) De Symptomatum Differentiis et Causis, London, 1524; (6) De Pulsuum Usu, London, without date. "But the most important service which Linacre conferred upon his own profession and science was not by his writings. To him was chiefly owing the foundation by royal charter of the College of Physicians in London, which first gave the medical profession in this country (Great Britain) a recognized legal status, and which has been the model of all the similar colleges of physicians and surgeons in the three kingdoms." He was the first president of the new college, which he further aided by conveying to it his own house, and by the gift of his library. Shortly before his death, Linacre obtained from the king letters patent for the establishment of readerships in Medicine at Oxford and Cambridge, and placed some valuable estates in the hands of trustees for their endowment." The Oxford foundation is the present Linacre professorship of anatomy.

Such was the man, and his position in the learned world of his time, who "not only first organized the medical profession in England, but impressed upon it for some centuries by the foundation of the Royal College of Physicians the stamp of his own individuality." It is interesting to see something of the founder's purpose, as expressed in the following words from the Royal Charter, to wit: "To check men who profess physic rather from avarice than in good faith, to the damage of credulous people;" and again, the corporation is "a college of the learned men who practice physic in London and within seven miles;" again, "in the hope that the ignorant and rash practitioners be restrained or punished," the censors of the College exercise the function of licensing, and of a court to try and punish offenders by fine and imprisonment.

In Warwick Lane was the "Old College of Physicians" built by Sir

Christopher Wren, after the great fire. In 1825 the present edifice, built from designs by Sir R. Smirke, R. A., on the west side of Trafalgar Square, was occupied.

In 1540 the "Royal College of Surgeons" was founded. The edifice stands on the south side of Lincoln's Inn Fields. Here is the museum, the chief portion of its contents being the collection of John Hunter, the great anatomist.

Without detaining you with any account of the history of these two important corporations, it will suffice to say that their dignity and authority and functions are to this day pervading and preëminent.

Any prominent physician or surgeon in London, or elsewhere in England, will be found to be a Member or Fellow of one of the Colleges. And I cannot give a better knowledge of the education of the profession in England than by quoting from the students' number of the *Lancet* the following: "Although the advent of a uniform one-portal system of examinations has been indefinitely postponed, if not made impossible, by the passing of the recent Medical Act (1886), yet a fairly near approach thereto is now offered to medical students by the combination of some of the corporations for examination purposes. The conjoint Examining Board in England of the Royal Colleges of Physicians and Surgeons has practically become the one portal for the rising generation of English medical men, and most English students will enter the profession by passing the examinations held under the supervision of this authority." Its title is "Examining Board in England by the Royal College of Physicians of London and the Royal College of Surgeons of England."

On Wednesday, March 24, 1886, was laid the foundation stone, by Her Majesty the Queen, of the "New Examination Hall," on the Thames Embankment, of the Royal College of Physicians of London and the Royal College of Surgeons of England. The Prince of Wales, Royal Dukes, and an immense assemblage, witnessed this public honor to medicine.

The regulations relating to the several examinations are: "Any candidate who desires to obtain both the license of the Royal College of Physicians of London and the diploma of member of the Royal College of Surgeons of England, is required to comply with the following regulations and to pass the examinations hereinafter set forth." Every such candidate will be required to produce satisfactory evidence: 1. Of having been registered as a medical student by the General Medical Council. 2. Of having been engaged in professional studies at least forty-five months, during which not less than three winter sessions and two summer sessions shall have been passed at one or more of the medical schools recognized by the two colleges. 3. Of having received instruction in the following subjects: (*a*) Chemistry, including Chemical Physics, meaning thereby Heat, Light, and Electricity; (*b*) Practical Chemistry; (*c*) Materia Medica; (*d*) Pharmacy. 4. Of having performed dissections at a recognized medical school during not less than twelve months. 5. Of having attended at a recognized medical school: (*a*) A course of lectures on Anatomy during not less than six months, or one winter session; (*b*) A course of lectures on General Anatomy and Physiology during not less than six months, or one winter session; (*c*) A separate practical course of General Anatomy and Physiology during not less than three months. 6. Of having attended at a recognized medical school; (*a*) A course of lectures on Medicine during not less than six months, or one winter session; (*b*) A course of lectures on Surgery during not less than six months, or one winter session; (*c*) A course of lectures on Midwifery and Diseases Peculiar to Women during not less than three months; (*d*) Systematic practical instruction in Medicine, Surgery, and Midwifery; (*e*) A course of lectures on Pathological Anatomy during not less than three months; (*f*) Demonstrations in the post-mortem room during the whole period of attendance on clinical lectures; (*g*) A course of lectures on Forensic Medicine during not less than three months. 7. Of having attended at a recognized hospital or hospitals the practice of Medicine and Surgery during three winter and two summer sessions. 8. Of having attended at a recognized hospital or hospitals during nine months clinical lectures on Medicine, and during nine months clinical lectures on Surgery, and of having been engaged during three months in the clinical study of Diseases Peculiar to Women. 9. Of having discharged, after he has passed the second examination, the duties of a medical clinical clerk during six months, and of a surgical dresser during other six months. 10. Of having received instruction in the practice of vaccination.

Prepared with the evidence that this schedule of work has been performed, the candidate has three "Professional Examinations" before him, called the First Examination, the Second Examination, and the Third or Final Examination.

The subjects of the First Examination are Chemistry, Chemical Physics, Materia Medica and Pharmacy, Elementary Anatomy and Elementary Physiology. This not at an earlier period than the end of his first winter session at a medical school.

The subjects of the Second Examination are Anatomy and Physiology. Eighteen months after registration and of professional study at a recognized medical school or schools this examination may be taken.

The subjects of the Final Examination are: Medicine, including Therapeutics, Medical Anatomy, and Pathology; Surgery, including Surgical Anatomy and Pathology; Midwifery and Diseases Peculiar to Women.

A candidate will be admitted to the third or final examination on producing evidence, 1, of being twenty-one years of age; 2, of having passed the second examination; 3, of having studied medicine, surgery, and midwifery in accordance with the regulations.

Any candidate who shall have obtained a colonial, Indian, or foreign qualification, after a course of study and examination equivalent to those required by the regulations of the two colleges, shall, on production of satisfactory evidence, etc., be admissible to the second and third examinations.

Having passed these three examinations, the candidate becomes L. R. C. P., L. R. C. S., and his name may be entered in the Medical Register, by which all his legal rights as a practitioner are secured. But the title of Doctor is not by right, courtesy, or custom given to these, the great body of practitioners. The M. D., as well as the M. B., degrees, only the universities at present have the power to grant or confer.

I will not take time to enumerate the university examinations for either degree, but will sum them up by saying that the university degrees require, 1, either an arts degree or a matriculation examination as a preliminary to the medical; 2, the acquisition of the knowledge contained in special works, in addition to the systematic treatises; and 3, from five to eight years of time before the M. D. can be obtained. This is true of the M. D. and M. B. degrees in England. In Scotland those degrees, may be obtained after four and five years of study.

The work of preparation for appearance before these examining bodies goes on in the lecture rooms and wards of the great hospitals, under the didactic and clinical instruction of the physicians and surgeons who attend them. I have, in visiting the hospitals, been much interested both in the men who bear the great professional names—as familiar in our own country as in London—the students who follow them at the bedside, and the educational methods illustrated before me. With no particular order, I may report some of the impressions made on my mind as I remember them:

1. It was hard for me to realize that the clinical classes were really the students of the school. The number were so few that at first I took them for the internes of the great hospital or the private pupils of the professor. But when I learned that a great hospital of nearly 1,000 beds had a medical school of less than 100 members, and remembered that at the same hours (2 to 4 P. M.) some students were in the place of autopsies—where I have seen three autopsies in progress at the same moment, two adept dissecters at work opening each body, and the demonstration of morbid anatomy proceeding—that others might be in the wards of the surgeon of the day, and still others in the out-patient department, which advanced students especially value, I could understand that the opportunity to each student or stranger like myself, to stand actually by the bedside and verify by eye, ear, and touch the point made by the clinical teacher, was the rule of clinical instruction in London hospitals, and not the exception.

2. As the class followed the hospital physician from bed to bed, the student who held the appointment of clinical clerk for that section of beds (it will be remembered that all candidates must have certificates of six months' service as clinical clerks) read an elaborate and learned history of the case, comprising the heredity and previous health of the patient, and an exhaustive, physical, and symptomatic examination of the nervous, respiratory, circulatory, and all other systems. I was greatly surprised that such kind and degree of work could be accomplished by students. I learned that it was due in part to the special

training of the clinical clerk, and in part to the assistance he receives from the house physician, an official who has finished his education in the medical schools and hospitals, and has passed his examinations, and is therefore a qualified practitioner who seeks the experience of a more responsible and extended hospital appointment before engaging in practice.

The case and the patient then being before the class, some individual is selected to make a diagnosis. He proceeds to auscultate, etc., etc., and states his opinion. Asked to give his reasons, he advances this or that, as what he sees, or hears, or feels, or learns, by any sense or method, and his interpretation thereof. Both his alleged facts and reasonings are submitted to the review and revise of other members of the class, and finally the teacher who has directed the enquiry throws a clear light upon all that has transpired, and from all the obscurities, either intrinsic in the case or skilfully evolved by the teacher from the partial knowledge and experience of the young man, emerges the diagnosis which is seen to be consistent with and to account for everything.

3. The students seemed to me to be generally about twenty years of age and upwards, representing the middle English class, many evidently from the universities and having degrees in arts, and nearly all possessed of well-trained, energetic minds and attentive habits.

4. A special interest to me was to see in each ward a large table furnished with microscope and chemical reägents, and the clinical teacher in the habit of taking the specimen of urine directly from the patient to the table, and proceeding before the class with examination and demonstration.

5. I have already stated how the student again sees the patient he has studied in the wards in the dead house, where, doubtless, as in all hospitals and in all countries, brilliant diagnoses are sometimes dim in the light let in by the scalpel.

6. I noted that when the cases involved examinations with the opthalmoscope or laryngoscope, it seemed to be as much a part of the students' ordinary work as auscultations, etc. I would make the point that the classes being so small (fifteen, perhaps) this daily clinical drill of two hours is a very real and most important thing. I cannot too warmly express my admiration of the clinical teaching I heard and of the opportunities I witnessed. It is as interesting to the old practitioner as to the student, and, indeed, medical men of different nationalities were always to be seen.

The opportunities for observing diseases I can only allude to. The manifestations of familiar diseases like acute rheumatism are evidently modified by the English constitution and climate. The wards were rich in examples of nervous affections, and rare diseases, some of which I had never before seen, were illustrated.

I saw several examples of myxœdema under the care of Dr. W. H. Ord, of St. Thomas' Hospital, who gave this rare disease its place in scientific medicine, and whose many courtesies, both at St. Thomas' and at the Medical Society of London, of which he was president, I gladly avail myself of this opportunity to acknowledge

The hospitals and their schools interest us not only in point of education of students or of practice. As great charities they are very prominent features of London. Their daily advertisements, "funds urgently needed," as well as their more formal appeal for support in various ways, and particularly by the general collection called "Hospital Sunday," keep them ever before a liberal and alms-giving community. But I wish to note the good fortune of many of the old hospitals, which have fixed incomes of hundreds of thousands of dollars from funds long ago bestowed upon them. Nor does it appear that the wealth of St. Bartholomew's, St. Thomas', and other hospitals, the gift of former generations, paralyzes the benevolence of the present. Perhaps it stimulates the living in their day and generation. Certainly we read in the financial statement of most of the hospitals that the sources of legacies and endowments, and the fixed number of annual subscribers, are as unfailing and abundant as is the demand.

7. In the out-patient departments specialties are taught and opportunities afforded for the widest range of clinical observation. I was especially interested in the electrical room of St. Bartholomew's under the charge of Mr. Stevenson, L.R.C.P., who gave me every privilege for observation. The elaborate conveniences for the use of both forms of electricity, and the results of treatment, illustrated the standing of this old, and yet new, therapeutic resource. I was much interested in the treatment of urethral stricture by electrolysis.

8. At the special hospitals—as the Children's Hospital, Great Ormond Street, and the Hospital for Consumptives, Brompton—very definite and lasting impressions were received. I will only mention that in the former, where are to be seen many poorly born and bred children (in the physiological sense), much value appears to be attached to the hypophosphite of lime. At the latter I noted with much interest that the consumptives are weighed every week, that nutrition is forced, and increase of weight often witnessed even while destructive processes are active. In doubtful diagnosis the search for the tubercle bacillus is made, and the result is very much trusted.

9. A very interesting and important part of the opportunities of London, both for the student and the practitioner, is the series of lectures given by eminent professional men under the auspices of one of the Royal Colleges or medical societies, as the case may be, having charge of funds in trust—the endowment of some founder in whose name the lectures are given. At the Gulstonian, Croonian, and other courses, I saw many students. These lectures are advertised in the medical journals, and are free to all professional men presenting a card, and are an admirable medium of presentation to the profession of the special studies and experience of men exceptionally fitted or placed for observation and teaching, and doubtless a much-coveted and prized distinction and stimulus to many members of the profession.

10. Under the system of English medical education, the teaching bodies being distinct from the examining, a student may, as I saw, be taking his lectures and laboratory work under Professor Foster, at Cambridge, and his

medical and surgical classes at one of the great hospitals in London. The General Medical Council, constituted of nominees of the Crown, representatives of the universities, and corporations, has charge of the Medical Register, in which all legal practitioners must be entered, and also of the registration of medical students.

As this is the outer gate of the well-fortified position I have been too long getting you in and about, will you have patience for a few words here? At least forty-five months before he hopes to pass and be qualified, the student must produce before a Registrar of the General Medical Council a certificate from a master, or a teacher, or an official in a medical school or hospital, that he has commenced a course of professional study. No person shall be allowed to be registered as a medical student unless he shall have previously passed a preliminary examination in English Language, Latin, Mathematics, Mechanics of Solids and Fluids, and one of the following optional subjects, viz., Greek, French, German, or Italian, or any other modern language, Logic, Botany, Zoology, and Chemistry.

As the law thus secures to the public such a prolonged and guarded system of education of its medical men, so it prohibits any unqualified man offering his services to the public as a qualified and registered practitioner. But in England any man may offer (not making false pretences) to attend the sick, and the public may employ whom they please; but if one chooses to consult the Register, he may surely learn who is qualified and what his qualifications are.

In London there are many M. D.'s—that is, doctors. In the smaller towns I saw or heard of few; the practitioners were mostly licentiates. There are, however, some Scotch degrees.

Doubtless, to this day in Great Britain may be found men who would answer to the following experience of Sir Walter Scott in Northumberland: "It happened at a small county town that Scott suddenly required medical advice for one of his servants, and on inquiring if there was any doctor in the place, was told that there were two, one long established and the other a new-comer. The latter gentleman being luckily found at home, soon made his appearance—a grave, sagacious-looking personage, attired in black, with a shovel hat—in whom, to his utter astonishment, Sir Walter recognized a Scotch blacksmith who had formerly practiced with tolerable success as a veterinary operator in Scott's neighborhood. 'How in all the world,' exclaimed he, 'can it be possible that this is John Lundie?' 'In troth is it, your Honor—just a that's for him.' 'Well, but let us hear. You were a *horse* doctor before; now, it seems, you are a man doctor. How do you get on?' 'Oh, just extraordinaire weel; for your Honor maun ken my practice is vera sure and orthodox. I depend entirely upon twa simples.' 'And what may their names be? Perhaps it is a secret?' 'I'll tell your Honor' (in a low tone). 'My two simples are just laudamy and calamy.' 'But, John, do you never happen to kill any of your patients?' 'Kill? Oh ay, may be sae, whiles they die and whiles no; but it's the will o' Providence.'"

I will conclude by alluding to the annual meeting of the British Medical Association, a gathering of perhaps a thousand or more of the practitioners of the United Kingdom. It is what one sees on such an occasion that makes it especially attractive. We can well read the addresses and papers at home, but in the few days full of activity that this body, representative of 14,000 members, is assembled, one will see not a few men whose names and fame are familiar.

The personnel of the profession of a great and enlightened country, in its contrasting nationalities—English, Scotch, Welsh, Irish; their manners, habits, methods of organization and work, are well worth study. The general meetings, at which I heard addresses in medicine, surgery, and pathology, by men selected because of eminence in these several departments, were events worthy to be remembered. The enthusiasm in the addresses was of the audience. The writers had felt it when preparing their subjects. The daily work of the ten or more sections was announced by card, on which not only the order of presentation of papers was announced, but the names of members who would take part in the discussion of the more important and practical contributions. Without taking your time to give the numerous interesting details, I will say that my impression was that the British medical profession was powerful, progressive, self-sustained, commanding in position and influence; not only because of the education and ability of its individuals, but more because of its organization and unity. The vigor and value of the annual meetings is sustained not only by the co-operation of the more distinguished members, but by the education of all the members in their stated and frequent local meetings throughout the country, as Branches, and by the weekly intercourse, through their *British Medical Journal*, which is the Association's own publication.

A final word: I have alluded to the edifices of the Royal Colleges. "The Medical Society of London," founded about the time of our Declaration of Independence, the "Royal Medico-Chirurgical Society," and others, also have commodious buildings, with assembly rooms, libraries, offices, and halls, adorned with portraits, busts, memorial tablets, and commemorative records. It is not necessary to suggest how much these contribute to the dignity and convenience of their members. They are visible embodiments of the stability, activity, and public functions of a learned profession, to which they minister by the intercourse, as of a home, cohesion, power, influence, and character.

ARTICLE II.

HYSTERIA, ITS CLINICAL PHENOMENA AND TREATMENT.

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[Continued from page 496.]

SECOND PAPER.

Anæsthesia.—Sensibility is frequently diminished or even entirely lost in hysteria. Sometimes the anæsthesia is circumscribed in character, as we have already had occasion to observe, whereas in a certain per cent. of cases it may involve the greater portion of the integument, and even extend to the muscles and other deep-seated tissues. Nor do the nerves of special sense escape; but, on the contrary, as we shall presently see, their implication often gives rise to pronounced functional impairment. Cutaneous anæsthesia usually appears after an hysterical attack, and is liable to aggravation from subsequent seizures. The anæsthesia thus induced exhibits certain amblitory characteristics of a most interesting nature from a clinical standpoint. Thus, after a fresh attack, the anæsthesia may apparently disappear; but, on careful examination, other parts are found to be affected. Or, the previously anæsthetic portions of the integument may become hyperæsthetic.

Sometimes tactile and thermic sensibility as well as sensibility to pain are impaired or lost; but as a rule the capacity to appreciate pain is alone affected. The distribution of the anæsthesia is subject to great variation. In a considerable number of cases it is situated on the dorsal aspect of the hands and feet; in another category of patients one or more limbs are involved, whereas in a small per cent. of cases it is limited to one half of the body. Anæsthesia of the entire integument is least frequently met with.

Anæsthesia of the various mucous membranes is frequently encountered, and gives rise to a variety of secondary phenomena. Thus, if the nasal mucous membrane be anæsthetic, irritating substances and tickling fail to cause sneezing. If the conjunctiva be affected it may be touched and irritated by foreign substances without giving rise to a flow of tears or reflex spasm. In anæsthesia of the pharynx and adjacent parts, the membrane in question may be titillated and otherwise irritated without giving rise to vomiting; and if the loss of sensibility be very extensive, taste and smell may be abolished. That the bladder and rectum may sometimes be involved seems probable from the fact that they are sometimes greatly distended by the accumulation of feces and urine, a condition which causes the patient no appreciable discomfort.

The mucous membrane of the vulva and vagina is frequently profoundly anæsthetic. It is this condition which causes that complete loss of sexual appetite sometimes observed in married women, a state of affairs prolific of conjugal unhappiness.

As we have already had occasion to remark, the special senses frequently become anæsthetic after severe hysterical attacks. Sometimes the sense of smell and taste may be entirely lost; at others the sensory impairment is unilateral. Unilateral and even bilateral deafness are sometimes observed in the absence of all disturbances affecting the peripheral apparatus of hearing.

More or less profound visual disturbances are also encountered among the hysterical; the most frequent of these is probably unilateral amblyopia. Complete amaurosis is, however, also observed. Of ninety-three cases of anæsthesia of different sensory districts examined by Briquet,* amblyopia was present in six instances.

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*Quoted by Jolly, op. cit.

Without entering upon a further consideration of these anomalies of vision, which have been exhaustively discussed by Charcot and others, I will simply observe that examination with the opthalmoscope usually fails to reveal any noteworthy changes in the disks. The case described by Galezowsky exhibited infiltration and capillary reddening of the disk; but the amblyopia had existed for a long time without opthalmoscopic changes, and it is consequently reasonable to infer that the latter were induced by some unknown intercurrent causes. In accordance with what we already know of the amblitory nature of hysterical symptoms, we are not surprised that both hysterical blindness and deafness sometimes suddenly disappear and give place to other phenomena.

Motor Disorders.—The phenomena of motility, like those of sensibility, may be exaggerated or diminished.

Spasms.—These may be of a tonic or clonic nature, and are manifested either as circumscribed twitchings of individual muscles or groups of muscles, or as convulsions involving the motor apparatus, more or less extensively.

When the spasm is located in the pharynx and œsophagus, it gives rise to the sensation of choking known as *globus hystericus*, a term which has been applied to this condition from the fact that the subject complains of feeling a ball in her throat. So convinced are most females of the objective reality of these sensations, that they make the most strenuous efforts to swallow the foreign body, apparently lodged in the throat; and, failing in this, they attempt to dislodge it with the finger, or by aid of a hair-pin. In certain cases the spasm of the æsophagus may be so severe and persistent in character as to induce the belief that organic stricture is really present. When the spasm extends to the tongue, which occasionally happens, the organ is distorted to such a degree as to greatly interfere with articulation and swallowing.

Sometimes, too, the stomach becomes involved in the spasm, and, consequently, the retention of food becomes almost impossible, the subject vomiting her food immediately after it has been swallowed. Peristaltic movements of various portions of the intestines, accompanied by borborygm, eructations and colicky pains are sometimes present. When this spasm of the intestine becomes localized and persistent, stricture may be produced. As a result of this condition the progress of the fœces is impeded, while at the same time, owing to the incarceration of gas above the point of constriction, the bowel becomes so distended as to give rise to the phenomenon known as a "phantom tumor." Sometimes, however, the results of the persistent spasm are even more serious, and a veritable intestinal obstruction may occur.

The genito-urinary apparatus may also become the seat of spasm, and in a considerable percentage of cases the latter gives rise to spasmodic retention of urine, which is, curiously enough, associated with a persistent desire to urinate. This desire to micturate is explicable in most cases by an unusually hyperæsthetic condition of the bladder, which may or may not be associated with irritability of the vagina and vulva.

When the hyperæsthesia of the genital organs is great, reflex activity is sometimes increased to such a degree as to render coitus impossible. Under these circumstances the mere contact of the male genital organs with the vaginal orifice is sufficient to provoke severe and painful vaginismus. Concerning the causation of vaginismus, Scanzoni published some interesting statistics in 1868. These observations have been summarized by Dr. T. Gaillard Thomas* as follows: "During the preceding three years he (Scanzoni) had seen thirty-four marked cases, due chiefly, he thought, to violent efforts at sexual intercourse, practiced upon women having small vaginas and well-developed hymens. Scanzoni found that twenty-five of his thirty-four patients had various functional and organic difficulties, which in twenty cases had come on after marriage; in eleven there was congestive dysmenorrhœa; in one, amenorrhœa had existed for three years; in thirteen, there was chronic metritis; four had either ante or retroversion; in one there was perimetritis; in seventeen, chronic uterine catarrh; in fourteen, vaginal catarrh; in one, anteflexion; in two, retroflexion; nine had urinal difficulties; one had inflammation of the right Bartholin's gland; in fourteen there were symptoms of anæmia; and *in seventeen of hysteria.*"†

And continuing, Dr. Thomas‡ proceeds to state that: "Although the sexual act could not be fully completed, conception was not entirely impossible, as out of the thirty-four cases two had conceived; in the other thirty-two sterile marriages had existed from one to eleven years. This sterility was not due to want of sexual desire, but arose entirely from spasm involving all the muscles of the pelvis, which also rendered examination, either by the touch or speculum, impossible without the use of an anæsthetic."

The hysterical attack, which we shall presently take occasion to describe more in detail, is frequently characterized by screaming, crying and laughter of a more or less spasmodic nature. In this connection it is well to bear in mind that the spasmodic closure of the glottis, which sometimes takes place during these seizures, may give rise to dangerous dyspnœa. Consequently, the medical attendant should be prepared to act with energy and precision.

Of diagnostic importance only second to globus are the more or less incessant facial contortions, the "facies hysterica" of the older writers—an appearance characterized at once by a certain fulness of the cheeks and a drooping of the eyelids.

Paralysis.—Complete or partial loss of muscular power is frequently present in hysteria. Sometimes the paresis is exceedingly limited in character, involving but one or two small muscles. Thus it is probable that the drooping of the eyelids, so characteristic of hysterical women, is due to weakness of the lavator palpebral superiosis muscles. In some cases, however, the paralysis is much more extensive, involving one or more limbs, or assuming the form of hemiplegia or paraplegia.

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*A Practical Treatise on the Diseases of Women, by T. Gaillard Thomas, M.D., Philadelphia, 1878, p. 143.

†The italics are ours.

‡Op. et loc. cit.

The evolution of these motor disturbances is, in some cases, extremely gradual, the first symptom worthy of note being a sensation of weakness or heaviness in the affected extremities. Sometimes, however, the advent of the paralysis is sudden, and takes place without the slightest warning, usually after an hysterical seizure.

In cases of hysterical paraplegia, in which the muscles of the lower extremities are only partially or slightly affected, the patient is able to walk about by the aid of a cane or crutch; when, however, the motor disturbances are more profound in character, she may be confined to her bed.

With the more or less extensive paralysis of hysteria, anæsthesia is frequently associated. Sometimes cutaneous sensibility is alone affected; but, on the other hand, in not a few cases the anæsthesia extends to the subjacent muscles.

Like so many of the other symptoms of hysteria, these paralytic phenomena are often amblitory and evanescent in character. Sometimes they disappear from one side of the body only to reappear on the other. Sometimes, again, the paralysis may persist for a few days, weeks, or months, and then suddenly disappear altogether. But it would be a mistake to infer from such disappearance that the subject is henceforth exempt from accidents of the kind, since it not infrequently happens that, even after the lapse of several years, the paralytic symptoms again return subsequent to an exceptionally severe seizure.

With regard to the differentiation of the paralytic phenomena of hysteria from true paralysis, resulting from organic lesions, this much may be briefly stated: That hysterical paralysis is, almost without exception, accompanied by the psychical disturbances, hyperæsthesia, spasms, and numerous other manifestations of the disease; so that the evidence afforded is so pregnant that mistakes are usually easily avoided.

After all has been said, however, which the subject admits of, it must be admitted that where the typical hysterical phenomena are slightly pronounced errors are extremely liable to occur. But, to admit this fact affords no extenuation for those errors in diagnosis and treatment which are so constantly perpetrated, even where the evidence is most conclusive.

Before concluding the consideration of the motor anomalies of the affection, a word respecting those *contractures* which have been so repeatedly and ably described by recent French authors.*

When tonic spasms in the muscles of the limbs are both severe and persistent, certain distortions of the latter are produced, which may be evanescent or recurrent in character, or may persist for a series of years. If the contracture be situated in the upper extremity, the forearm, hand, and fingers are rigidly flexed, so that extension is often impossible. But if the spasmodic condition be present in the lower limb the latter is extended upon the pelvis and the leg upon the thigh. At the same time the foot usually assumes the attitude of talipes equino-varus, while, owing to spasm of the adductors, the thighs are rigidly approximated.

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* Vide Charcot, "Lecons sur les Maladies du System Nerveux," Paris, 1872-1873. Also, Bourneville et Voulet, "De la Contracture Hystérique," Paris, 1872.

Sometimes these contractures may persist for a series of years and then disappear without other warning than some form of violent mental disturbance. The final result is not, however, always so fortunate; since, after the contracture has continued for a long time, atrophy of the affected muscles may occur. If, under these circumstances, a careful electrical examination be instituted, it is often possible to demonstrate a well-marked degenerative reaction.

Tremor is sometimes observed to accompany these contractures, and may be evoked by any sudden tension of the muscular system. In exquisite cases the knee-tendon reflexes may be exaggerated. In a case of this kind, in which the contractures had persisted for many years, Charcot* was able to demonstrate, by post mortem examination, sclerosis of both lateral columns of the cord. To infer, however, from this fact that the presence of tremor in these cases is an infallible indication of an organic lesion of the lateral columns is manifestly impossible, since recovery sometimes takes place after the tremulous condition has persisted for a long time. On the other hand it is possible, and perhaps even probable, that in old contractures with atrophy a lesion more or less permanent in character is actually present; and, furthermore, it is even conceivable that such a lesion might extend to the anterior horns of gray matter. Assuming this to be the actual state of things, both the permanent contracture and subsequent atrophy are easily accounted for. Speculations on this point are, however, of little avail in the present state of knowledge; and, in spite of the interest attaching to Charcot's case, a single instance of this kind cannot set at rest a question of such magnitude. Evidence in corroboration or rebuttal is, therefore, in order.

It should be borne in mind, in this connection, that tremor is not, however, necessarily always accompanied by contracture, but may exist quite independently of the latter. I have at present a case of this kind under treatment. The patient, a young man of thirty, exhibits a variety of hysterical mental and physical symptoms, and not the least interesting feature in the case is persistent tremor of the facial muscles, which is also present to some extent in the hands. There is, however, no tremor in the tongue. The tremulous condition, which I have already succeeded in ameliorating to a considerable extent, is excited by insignificent emotional disturbances, and resembles closely the tremor of paralysis agitans.

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* Cited by Bourneville, op. cit.

[*To be concluded.*]

ARTICLE III.

THE MILK SUPPLY OF LARGE CITIES AND THE IMPROPER MODE IN WHICH IT IS CONDUCTED.* By H. A. POOLER, M. D., Goshen, Orange County, New York.

Mr. Chairman and Fellow Practitioners:

It affords me great pleasure to meet you on this occasion, and take part in your deliberations. The subject assigned me is of great importance, "Milk, and the Milk Supply of Large Cities," and I assure you that I feel quite inadequate to do justice to it, when I consider that milk is an article of food which enters so largely into the homes of all, the rich and poor, and that it is the actual means of sustenance for over three-fourths of the infantile portion of our population, besides the sick, the feeble and the aged portion of our adults. It rarely fails to nourish and sustain exhausted nature when all other means fail, if it is, as God intended it should be, pure, and not adulterated by the vile hand of man. It is the physician's boon, and never disappoints him; and this has been true of it in all time. We find that as far back as history dates milk is spoken of as a most important and palatable article of food. Hippocrates commended it as the most healthy and nourishing kind of food for human consumption. Aristotle, who may be considered the father of natural history, expresses his esteem for milk as an article of sustenance. According to Pliny, many Eastern nations of his time subsisted almost entirely upon milk and the spontaneous productions of the earth. The early Germans, and other European nations, depended largely on milk, as indeed did the early Britons, as related by Cæsar in his Commentaries. It is curious to note that the Indian legends state that a cow was among the first of created animals; and the traditions of the Celtic nation also place the cow among the earliest of created animals, regarding it as a sort of divinity. In ancient Rome baths of warm milk were recommended as most beneficial in many diseases. In fact, in all ages milk was considered a most important and necessary article of diet.

We read that,

> In King Alfred's golden reign,
> One prison would half the nation's enemies contain.

But in our day, I regret to say, it would require a prison that would cover one-half of Manhattan Island, and it would be so full that they would stick out of the windows at that, to hold the unscrupulous adulterators of our food, who tamper with human life for mercenary ends. In their blind greed they are willing to sacrifice the health and lives of all, both old and young; and the helpless infant in its cradle comes in for more than its share of their baleful influence, as the food (milk) upon which it is entirely dependent for sustenance affords the chief opportunity for their merciless practices. It has been my unpleasant lot, as a practicing physician in the city of New York, to see poverty in all of its stages, and misery beyond description. None know so well as those who practise our noble profession, and are obliged to battle with disease under adverse circumstances, the necessity of pure and nourishing food for the infants; and a man who will deliberately tamper with the milk upon which these children depend is just as much a murderer as though he deliberately gave them poison.

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* Read at the 2d Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, N. Y., October 12th, 1886. The screen illustrations were prepared and exhibited by Edward W. Martin, Ph.D., chemist to the New York Board of Health.

In order that you may understand the means of adulteration, and its effects upon the infantile population, as well as the adult invalid portion of our community, I deem it important to refer first to the composition of milk in its pure state, and my friend Mr. Edward W. Martin, who kindly assists me to-day, and who has ingeniously prepared some photomicrograghs from specimens, which he has enlarged and can reproduce by the aid of the magic lantern, will give you an occular demonstration that will convey to your minds more clearly than words the true condition of pure milk, as well as the condition of milk that has been robbed of its nutriment by skimming or watering, the usual methods adopted by these modern Herods, the adulterators of infants' food.

The Composition of Milk.—Milk is a fluid secreted by the mammary glands of animals for the support and nourishment of their young, and consists of an emulsion of fats in a solution of caseine and sugar, together with certain inorganic salts. The color of milk is due to the fat globules, which can be readily seen by the aid of the microscope, but are invisible to the naked eye. These globules have a yellowish-blue color and a pearly gloss, and vary in size, as you will see by the photomicrograph of milk, plate No. 1, which is here produced. This is a specimen of human milk, taken from a healthy woman, magnified 400 diameters and photographed. This specimen shows for itself as to the fat globules.

By chemical analysis it contains, water 86.78, fat 3.38, sugar 7.58, caseine 1.72, salts 0.56. Specific gravity, 1.032; per cent. of cream, 10; reaction, alkaline. The little globules you see so thickly dotted over this space are very numerous, being about from 1,102,500 to 3,700,000 globules to the cubic millimetre, or 6000th of an inch. This, gentleman, presents to your view the pure and nutritious substance, milk, which the Almighty intended to nourish and sustain the young of the human family, and to fully develop the entire organization from birth to the age in which they may begin to take mixed diet in other forms. In fact, we may say that this is the only substance that will support a human being, in its entirety, from the cradle to the grave. But there are many children who are deprived of this heaven-given boon through the physical incapacity of their mothers to furnish the supply, or they may be prevented from doing so by many different circumstances. There is another class of mothers of whom I consider it my duty to speak, and they are by far too numerous, as every physician can testify, viz:—mothers who are able to nurse their children, but cast them aside for the fascinations of society, and trust the charge committed to them to the care of a nurse, and to the nursing bottle, while they enjoy themselves in the gay world of fashion, utterly regardless of their maternal duties. Such a mother may appear as a queen in society; but if that sacred charge loses its life for want of the breast, how will she appear before the impartial Judge of all? I fear as nothing more nor less than a murderer.

Now, gentlemen, we have disposed of the natural food of children, and we come to the best substitute for mother's milk—that is the milk of the cow. This is a serious subject, when we consider that two-thirds of the children in our larger cities are fed upon this substitute, and it behooves us to look after the matter and see that it is furnished in the best and purest form possible. Unfortunately, however, it is an article which has attracted the avarice of man; and from the time it leaves the producer until it reaches the consumer it is so distorted from its natural condition that it bears but little semblance to the original. Indeed, its deterioration often begins through the cow herself from the practices of these mercenary adulterators, as I will explain later on. In order that you may be familiar with the natural production, so that you can better understand the abnormal condition when we reach it, I will produce in the same manner as No. 1 specimen No. 2, which is one of normal cow's milk, prepared by Mr. Martin in the same manner as No. 1. You see here a specimen in appearance similar to mother's milk, the analysis of which is as follows: Specific gravity 1.033; reaction, neutral; water 86.74, fat 3.21, sugar 4.21, caseine 5.12, salts 0.68. Thus you see, gentlemen, that while you perceive no difference with the eye, chemistry shows in its analysis that there is a great difference in two of the essential constituents, viz.: caseine, which is the most important, and sugar, which is also of some importance. Let us compare the two closely and see what changes are necessary in the cow's milk to make it a substitute for that of the mother. The specific gravity is about the same, that of mother's milk being 1.032, and that of cow's milk 1.033. The difference in reaction is material, but we find that they are about equal in water substance, the former being 86.76, the latter 86.74; as to fatty matter and salts they are about the same, but we find the quantity of sugar in mother's milk about twice as great. This is an important carbonaceous substance and cannot be spared from the milk, but the lack of it may be made up by sugar of milk; so that we see that this can be disposed of easily. When we come to the caseine, however, we have reached the real trouble, for we find that in mother's milk it is about 1.72, and in cow's milk 5.12, or about three times as much, and of a very different nature. The caseine of mother's milk partakes more of a soft, albuminous nature, and when reduced to curd has a light, flaky character not unlike the albuminous portion of an egg after being dipped in scalding water. It never becomes harder during the process of digestion, and consequently, from the comparatively small quantity and its soft, flaky condition, it is no tax upon the digestive powers, but an essential ingredient.

We find the caseine in cow's milk a very different substance, though chemistry shows they are the same. When it is reduced to a curd, either in the stomach or out of it, it is a very hard, elastic substance, much more difficult for the gastric juices to act upon and to liquefy. It is true, when there has been none of the fat removed from the milk, it forms a spongy, porous curd, which allows the gastric juices to penetrate, and makes it more digestible; but under any circumstances, to give an infant fresh cow's milk, though it be pure, would produce death ultimately, if not immediately, as the power to digest the amount of caseine is entirely inadequate in the infant. Therefore, to overcome the deleterious effects of the caseine, we must reduce the volume of milk at least fifty per cent., and for very young infants 75 per cent. This will reduce the caseine to within the capacity of the stomach for a short time, but its hardness of digestion will soon tell, together with the other influences which this reduction brings upon the child. We find that the proportion of fat in mother's milk is 3.38, and in cow's milk 3.21. Three and thirty-eight one-hundredths of fat was considered by the Almighty to be necessary to sustain life and nourish the body, and to furnish carbonaceous substance to keep up a proper temperature. When we add fifty per cent. of water to the cow's milk to reduce the caseine to the amount the stomach will bear, we at the same time reduce the fat fifty per cent., which leaves but one and one-half per cent. of essential nutriment in the food; and when you reduce it seventy-five per cent. for still younger children, you reduce the nutriment still more—to less than one per cent., when it needs 3.38 to sustain life and nourish the body. The more a child is weakened from the loss of nourishment, the more feeble are the digestive powers, and the harder they have to struggle to digest the unnatural caseine. Therefore, it can be seen that we are killing the child in two ways at one time. Is it any wonder that physicians shake their heads in doubt and despair when they see the nursing bottle put to a child's mouth? The death-rate of the cities proves that his doubts are well founded. Now, gentlemen, this is what happens when the milk is just as pure as it comes fresh from the cow; but what can we expect when it has been skimmed and watered, and thus robbed of a large portion of its fat, before it reaches the consumer for the child? Yet this has been done, and is continually being done, as I will show you in speaking of the abnormal conditions of milk.

I would here state, in passing, that if mothers would add a tablespoonful of pure and perfectly fresh cream to each half-pint of the nursing fluid, after mixing it with a half-teaspoonful of pulverized loaf sugar, they will add greatly to the nutritive power of the food. It should never be fed to the child at a less temperature than 98° F., which is the temperature the child takes the milk from the mother's breast.

THE ABNORMAL CONDITIONS OF MILK.

As before stated, abnormal milk should be considered unwholesome, even if the animal is not suffering with any disease, because the more abnormal the milk the greater is the difference between it and human milk.

There is only one period at which a healthy cow will secrete unhealthy milk, and that is after the birth of the calf. Such milk contains colostrum. See plate No. 3, here produced, which belongs to the series prepared by Mr. Martin. Such milk taken by the young or invalids might produce very harmful results. The colostrum is in the milk at that time for the purpose of purging the calf, and its results on the young or sickly can readily be imagined. This specimen, which shows the colostrum cells so beautifully, was taken from the cow five days after parturition, and you see that they are still abundant. It is certain that the milk would not be entirely free from these cells ten days after the birth of the calf; but the farmer, not knowing the pathological condition of the milk at these times, or at least the length of time that this continues, usually saves the sixth milking (three days after parturition), when he considers the milk good. What is the result? The milk of the entire dairy is contaminated by the diffusion through it of the colostrum. This reaches the consumer and is given to the child. The doctor is called and finds his little patient purging and vomiting, and he cannot understand the cause, as the diet has not been changed. He prescribes, but the infant is no better, because the trouble is kept up until the source of irritation has worn out in the dairy where the milk is produced. But the child has had a nail driven in its coffin, and other circumstances will probably complete the fatal work.

I have spoken of one abnormal condition of milk which arises through the cow, and shall speak of another later. I shall now speak of the adulteration of the milk itself. Many foreign substances have been added to milk, but by far the most common forms of adulteration are the taking off of fat and the addition of water. The taking off of the fat of milk that is to be given to an infant as its only supply of nutriment is of greater moment than is generally known. The total amount of fat in a healthy adult human body is, according to Witthaus, from 2½ to 5 per cent. of the body weight. It is still greater in infants, and milk (nature's food) furnishes an indication of the amount of fat required by the human being in the large proportion of butter-fat to its other solid ingredients, it being from 25 to 35 per cent. of these. Fat fills up the vacant spaces and gives rotundity to the body; it aids in resisting and distributing external pressure; it facilitates the movements of the parts and renders the tissues flexible by its accumulation in a thick layer underneath the skin; and it materially aids in retaining the bodily heat.

Besides performing these purely mechanical offices, fat is essentially concerned in all the chemical and most vital processes of the body. It is believed to render important if not necessary assistance to the digestive fluids in the digestion of the other principles, for it is known that no animal cell or fibre can be formed without it, and that it is the active agent in exciting the changes that take place in the nitrogenous principles. It forms the nucleus of all cellular growth, and it is an indispensable, if not the most important, agent in the formation of blood. Letheby says: "There is good reason for believing that it is largely concerned in the formation of bile, and that the biliary acids, the essential ingredients of bile, are fatty compounds." Fatty matter forms a great part of the brain, spinal cord, sympathetic system, and cerebro-spinal nerves. As a heat-producer fat stands pre-eminent among the alimentary principles, having been found by actual experiment to possess two and one-half times the heat-producing power of sugar and starch.

It is mainly from the fat stored up in our bodies that we derive our sustenance when the supply of food is temporarily cut off through sickness, etc., and though some fat is produced in the body, it is done with great loss of material. The great bulk is taken in as fat. Furthermore, it is believed that nature has especially adapted butter-fat to the digestion of infants, for fats are mostly digested by the fluid secreted by the pancreas, an organ supposed to be poorly developed in the infant, but owing to the large amount of butyrin in butter-fat it can be assimilated without this fluid. Thus we see that milk-fat is one of the most important ingredients of an infant's food; indeed, it is essential in large quantities to its proper nourishment. You have all noticed the plumpness of healthy children who have had the advantage of a mother's breast, and the cadaverous leanness of those who have been less favored, and fed from the nursing-bottle.

Such being the great importance of milk-fat in nourishing, developing, and sustaining the human system, I shall now proceed to point out the rapacity of the modern Herods, who out-Herod the original Herod in their slaughter of the innocents. In order to prove to what extent these men abound I will quote verbatim the facts set forth in the second annual report of the State Board of Health, for 1881 and 1882, by C. F. Chandler, Ph. D., who was at that time President of the Board of Health of the City of New York, together with C. E. Munsell, Ph. B., who assisted him in investigating the adulteration of milk. Their report is as follows: "That while a large proportion of the milk sold has been but moderately watered and skimmed, and is still above the standard of the poorest milk (for which they allow two and one-half per cent. of fat), much of the milk has been *extended* and skimmed far below this standard. So openly are these frauds practiced that "creameries" have been established in many localities, the names and locations of seventy-three such establishments being known to the writer, of which sixty-three are known to send skimmed milk to New York City, all of which is sold as whole (pure) milk on its arrival." Later reports of C. E. Munsell have shown from analysis that this skimming amounted to from about 29 to 78 per cent. of the fat. Now you can understand, gentlemen, that the mother receiving this milk into her home as whole, pure milk, will dilute it one-half to three fourths. What does the child have to live upon, when nature says that infants must have three and thirty-eight one-hundredths (3.38) of milk-fat to sustain and develop the infant form? I have a very good specimen of the commercial milk of 1881 to 1883, to which I will here call your attention. You can readily see the difference between figure No. 1 and figure No. 4, and the pictured representation is more convincing *than words.* This is nearly the quality of milk that the infants of large cities were asked to live and thrive upon by these modern Herods from 1880 to 1883. At this date there was no law in this State prohibiting the shipping and sale of skimmed milk in our markets, unless there was some special city law to that effect. Dr. C. F. Chandler and I went to the State Legislature in the winter of 1882 and 1883, and we succeeded in getting a law passed prohibiting the shipping of skimmed milk, or offering it for sale in the cities. We had a hard fight, but our cause was just, and we won; and I must say that the photomicrographs prepared for me by Mr. Martin did more towards accomplishing the good result than our feeble efforts, as we had been preceded by parties interested in its sale, and had been represented to the committee who had the matter in charge as a meddlesome delegation that would come before them to break up a legitimate business. When I presented these photographs, however, we had no further trouble in obtaining our measure, and Dr. Chandler soon arranged to put inspectors upon the milk trains, under the direction of my friend Mr. Martin. What a glorious result followed! I told the Judiciary Committee before whom we appeared that if they would give us the law I would guarantee to reduce the death-rate in the City of New York at least three thousand in children under five years old; and I am happy to say I can show you that I kept my promise, for the death-rate of children indicates the quality of the milk-supply as accurately as the thermometer does the temperature of the atmosphere. I now present to you the death-rate of children in the City of New York under five years of age for the following years, which will show how positively it increased with the increase of adulterated milk, which had full sway from 1880 to 1883. In 1879 the death-rate in the city in children under five years was 12,777, which was about 50 per cent. of the births of that year. This was before the adulterators got fairly at work, but in 1880 you will see that their cruel hand was being felt, as the death-rate increased to 14,650, when from 1878 to 1879 it increased only 300, and there had been an average annual increase of about 400 since 1876. When we reach 1880 we see an increase of no less than 2,000 in one year. But what do we see in 1881? The death-rate was 17,737, which was an increase of 3,000 over 1880, and about seventy-five per cent. of the births. And we find in 1882 that the death-rate was about the same as in 1881, 17,520. If it had not been for the work that was done in the fall of 1882, the death-rate would have reached near 20,000. But the adulterators were so alarmed by the close watch kept upon them that they did not dare to do such a wholesale business. In the winter of 1882 and 1883, the skimmed milk bill was passed, and put in force by those interested in pure milk, and what was the result? Notwithstanding the disadvantages of enforcing the law, the death-rate, as I had promised, was reduced from 17,737 in 1881 to 13,856 in 1883, which makes 3,981 less; and understand that we had the terrible inroads of disease to contend with that had been made by the want of proper nourishment in 1882; also, the natural increase of the death-rate is not included in this, which is about 300 annually, according to the facts, previous to 1879; which would add at least 600 more in our favor, making the round number of 4,581 lives that were saved by our efforts in that one year. But, alas, the noble effort was blasted in 1884, when politics laid its icy hand of death upon the embryo of a perfect reformation in the milk-supply, which had thus begun so well. In that year we went to the Legislature to ask help to carry on our noble work, as nearly all the work had been accomplished through voluntary services up to that time. They appropriated money, but at the same time they established a Dairy Commission to take charge of it, and that must needs form a part of the great party "machine." There were other political changes which caused Dr. Chandler to resign his position as President of the Board of Health, and we lost his valuable services. If there ever was a friend of pure milk, Dr. Chandler was one, and he entered into this work heart and soul. Mr. Martin was also assigned other duties, so that he could not devote his entire services to the matter. And here I would say that the improvement of the milk was due more to his faithful labors than to any other cause. He attended to his duties in the Health Department by day, and rode on the milk trains by night; and this, too, without any compensation whatever for the greater part of the time; and I believe he paid his own expenses. Now, what was the result of the change alluded to? We find by looking at the same records that the death-rate jumped from 13,865 in 1883 to 15,272 in 1884, an increase of nearly 2,000 again in one year. To be sure it has not returned to where it was in 1881, 17,737. But is this not far too many human lives to lose if they can be as well saved? As to the quality of milk now coming into the city market, I must refer you to the recent reports made by Dr. Edson in New York City. Dr. Edson, of New York, and Dr. Bartley, of Brooklyn, have done all in their power with the means at their command to keep this evil in check. But what can they do with the small force at their command and the lack of means to employ more? There are a few very worthy men connected with our city government, but their virtues are lost and swallowed up in the whirlpool of political mire. Will patience and forbearance ever cease to be a virtue? Yes, gentlemen, they have ceased to be a virtue when intelligent citizens stand by and see the rights of their fellow men trampled under foot by those who should protect them, thus giving sanction to their action and aiding and abetting the traitors. Let intelligent citizens rally and speak in tones of thunder against this outrage, and clear their skirts of neglect of duty at least.

I will now speak as briefly as possible of the next greatest evil connected with the milk supply of the cities, and that is the adulteration of milk through the cow, by feed and otherwise. I will first call your attention to a few well established facts in our profession. If we are called upon to choose a wet nurse for an infant whose mother is unable to nurse it for any reason, what is our duty? We first examine her as to constitutional troubles; if we find her all right in this respect we then proceed to ascertain the quality and flow of her milk; if that is all right, we next inquire into her habits as to *drinking* and eating, temper, etc.; if they are all right, you say to the mother, "She will do"; but if one of the qualities is wanting, you say, "Try again, this one will not do." Now, how is it with those less fortunate children whose parents are unable to procure them a wet nurse? They must depend upon the cow; and three-fourths of the children of our large cities are dependent on this sort of wet nurse, who runs at large at the present time without any attention being paid to her care, feed, or health; nor is she left to her own free choice of food, but is subject to have crammed down her throat, against her will, the vile waste-product of another kind of adulteration. There are about nine thousand distilleries, breweries, and malt houses in this country (and nearly all located in large cities), in which are used annually about eighty million bushels of grain to make their product. They only abstract the juice and leave the grain, and this refuse is nearly all sold to feed the cows that produce the milk upon which the infantile portion of our population subsist. The action of this vile stuff upon the milk I will briefly set forth, and leave you to judge whether there should not be some law to protect our infants from this source of adulteration. To give you an idea of the amount of this refuse, I will compare it with the actual labor it requires to handle it. It would take two hundred and twenty two-horse teams an entire year to handle this poisoned stuff, if they should work ten hours per day every day in the year, and haul a load every half hour, each weighing two thousand pounds. Thus, you will see the enormous amount there is of it; for, in other words, it would take one pair of horses two hundred and twenty years to move the product of one year from one place to another.

Of the sixteen million of cows kept in the United States for domestic purposes, about fifteen million are on farms, and one million in cities and villages. Those in cities and villages, above enumerated, are used almost entirely as private cows, principally to furnish children from private resources. I shall allude to their treatment also. Those kept upon farms are used for the production of butter, cheese, and the milk supply of the country.

The natural food of a cow is grass, either green or dried, and when she is fed exclusively upon it, her fresh milk is generally neutral in reaction; and, on the contrary, the milk of cows fed either wholly or in part upon food other than the natural, is almost invariably acid. The latter point is made manifest by the experiment of Dr. Mayer, of Berlin, quoted by Ruth:

(*a*) "Of cows fed with brewers' grains, red potatoes, rye bran, and wild hay, in five instances the milk was slightly sour, in one very sour."

(*b*) "Of forty cows fed with potato mash, barley-husks, and clover, and barley-straw, in ten examined the milk was sour, in three very sour."

(*c*) "From five cows fed by a cow-feeder on lukewarm bran mash and hay, in four the fresh milk was quite neutral, in one it was decidedly alkaline."

Thus you see by the above high authority that improper food in the first two specimens produced bad and sour milk; in the third specimen, by proper feeding, the milk was good, and one sample was quite alkaline. All physicians know how easily affected infants are by acid milk, and nursing mothers have a strong prejudice against acid food. Dr. J. Lewis Smith, of New York, who has had great experience in this matter, states, in his most valuable work on the " Diseases of Infancy and Childhood," that " milk used for children should always be alkaline, and if it is acid, as shown by the proper test, it should be rejected."

Dr. Hassal, in his work on " Food; Its Adulterations, Etc.," says: " As is well known, a very considerable number of the cows which supply London with milk are kept in various confined and unhealthy places in the metropolis. Such cows are seldom turned out to grass, the system adopted being altogether artificial and unnatural. Brewers' grains and distillers' mash form much of their food. These stimulate the animals unnaturally, and under this stimulus large quantities of milk of inferior quality are secreted. The cow quickly becomes worn out and diseased in consequence." He also quotes Mr. Harley as saying that " brewery and distillery grains and distillers' mash make the cattle ' grains sick,' as it is termed, and prove injurious to the stomach of the animal. It has been ascertained that if cows are fed upon these grains, etc., their constitutions become quickly destroyed."

Another danger which may occur from feeding brewers' grains is seen in the following: A few years ago in the Brown Institution (England) it was found by experiment that brewers' grains afford a most favorable soil for the development of the *anthrax* germ. Here is presented, in plate No. 5, showing development of bacteria in grains, the *bacillus anthracis*. The disease, *anthrax*, was produced in cattle by feeding them the grains in which the germs had been cultivated. Also, an epidemic of this disease broke out in 1879 in a district in England which had been previously free from it, and it was found upon investigation that all of the cattle infected had been fed upon grains from one particular brewery. (It does not appear how these grains became affected.)

I shall tax your patience with one or two more examples of the unhealthfulness of milk produced from such food, and they will show the action of such milk upon the human system, especially upon the infant.

I will here present to you specimen No. 6 (also prepared by Mr. Martin), which I think the most beautiful specimen of all, as to its pathological relation to disease, as it illustrates two great principles of our profession anatomically and pathologically. Anatomically, as to the lesions in the part affected; pathologically, that the disease-germ may be transmitted from the diseased animal to the healthy human being or animals, and thus establish a disease by the introduction of the *bacillus* peculiar to the disease with which the person or animal is affected. And to prove this fact I will quote from Dr. Billings, in his book entitled " Relations of Animal Diseases to the Public Health." Upon this subject he says: " Dr. Hertwig (of the Veterinary Institute, Berlin, Prussia) first proved the same by direct experiment. He drank daily, for four consecutive days, a quart of milk taken from cows having the disease; on the second day he observed a mild fever, pains in the limbs, headache, a dry and hot throat, and a peculiar sensation in the hands and fingers. These mild phenomena continued about five days, then the lining of the mouth became swollen, especially the covering of the tongue. In a short time small vesicles began to develop. At the same time that these symptoms appeared in the mouth and on the lips there appeared an eruption of similar character upon the hand and fingers. Two medical practitioners also subjected themselves to the same experiment and at the same time similar results followed." Now, gentlemen, this, with all the other high authorities which I have quoted, seems to me to establish beyond a doubt that the germ theory of disease is the correct one, and that disease is transmitted from the lower animals to man. Therefore it shows the absolute necessity of a systematic plan of preserving the infantile portion of the human family from such hazardous risks.

To show you the pernicious effects of this quality of milk upon them I still further quote from a letter from Dr. A. H. P. Luef, of this city, to Mr. Edward W. Martin, bearing date Brooklyn, Feb. 6, 1884, as follows: "Dear Sir: Your card received. The following is a copy of the record of the autopsy, filed in the County Clerk's Office, of the child you refer to. I made an autopsy on the body of Stanlie F. Heyden, of No. 281 Bergen St., Aug. 1, 1882. I found the stomach exceedingly soft and delicate, and filled with coagulated milk, forming quite a firm lump over three inches in diameter. The stomach was also reddened. The intestines were pale, and entirely bloodless, containing a pale, slimy material characteristic of inflammation. The membrane of the intestines was also closely studded with little whitish specks, which were enlarged glands. All the other organs of the body were normal, except the marked paleness. In my opinion death resulted from exhaustion (collapse) due to *gastro-entero-colitis*, augmented by the presence in the stomach of the firm clot of coagulated milk, which was too firm for the child to vomit up or pass down into the gut, and therefore acted as a foreign body and irritant." Signed, A. H. P. Luef, M. D.

"Appended I find the mother's statement, as follows: 'I am the mother of the child. He was four months old. He took sick on the same day, and we went to the druggist and got some medicine. The child died soon afterward. We sent for Dr. Bartley, but he arrived just after the child died.' The mother gave me some of the milk, which, on analysis, I believe to be swill milk, and the man when accused of it at first denied it, but afterward admitted that he had fed grains (brewers' grains). The curd formed from the milk was exceedingly tough and could be shaken to pieces with difficulty. This was especially seen in the estimation of the fat with the lactobutyrometer. After adding ether it required very long shaking to break up the clots of caseine. The fat was deficient in quantity; the curd very abundant: the specific gravity 1,030; sugar not estimated. Hoping this will be satisfactory, I am,

Very Truly Yours,

E. H. BARTLEY."

Dr. Bartley afterwards furnished the complete analysis of this milk, which was as follows: water, 89.46; fat, 2.03; sugar, 2.83; caseine and salts, 5.74.

Now, gentlemen, the above tells the whole facts as to the action of this milk upon the infant. I might quote you two pages of high references bearing as closely upon the action of this milk upon infants as the above, but I have chosen these not alone upon the ground that they are of the highest authority, but because the records are at your hand to examine. What are the conclusions to be drawn from these facts? It establishes beyond a doubt the facts held by those who make a study of milk that the action of this food is to impoverish the milk in the most essential constituent, fat, and largely increases the most objectionable part, caseine, as you may see by the analysis that the fat is only 2 per cent. when it should be at least 3.38, and the caseine is almost 6 per cent. when it should have been but 1.72 for the child's use. This illustrates another principle which I have not spoken of, which is most hazardous, and proved to cause the death of the above child; that is, when the fat is not equal to the normal amount contained in the milk, the milk forms a hard curd in its coagulation, such as is perfectly represented in the curd taken from this child's stomach, and is known to the skimmed milk cheese makers as "hickory curd," a name derived from its toughness, which is caused by the abstraction of the fat. This caseine lies in the stomach of the child a hard and impenetrable mass, far beyond the power of the gastric juices to act upon and dissolve; consequently it becomes an irritating substance that may and does produce all of the symptoms that the child above spoken of suffered and died from. The feeding question is the second most important question pertaining to the milk supply of large cities. This thing has been spoken of, and attempts made to correct it, but the power behind it, the brewers, maltsters, and distillers, is a power not easy to combat, as their interests are largely at stake; for it touches their pockets, which is the only sensitive part about them, and you might as well strike a hornet's nest with your bare hand as to interfere with them. It is not enough that they should poison the current of life with their poisonous product, but they must pollute and poison the very fountain-head from which the one great supply of our infants is drawn, by feeding their refuse to the cows. But, you may say, the distillers and brewers are not the only ones to blame. How about the dairymen who feed this stuff? I would say in their behalf (while I do not hold them entirely guiltless) that, not being cientific men, they have been educated up to a belief, by the persuasions of the vendors of the vile stuff, that this is a healthy food. I am happy to say that those who have heard me speak upon the subject in the past have in great part abandoned the feeding of this kind of food, as there is not one carload fed now in my county where there were ten three years ago; but there has not been such a reduction in other counties, as they have not had the matter so thoroughly ventilated to them. I believe as a class they wish to do right, as will be shown by the following statement: In 1883 there were fourteen hundred specimens of milk inspected in transit to the cities; out of the fourteen hundred, eleven hundred had been adulterated, and ten hundred and ninety-seven of those specimens had been tampered with by the creameries and dealers, and only three specimens of the eleven hundred had been tampered with by the farmer. And out of the fourteen hundred the three hundred that had not been tampered with, or adulterated, were nearly all shipped from the farmer to the dealer direct. Now this shows you who does the adulterating. I believe that as a class the farmers would do all in their power to have this bad feed business wiped out; but there should be a general law, because they are not all as conscientious as they might be as to the matter of feed, and they say they must feed cheap under the present state of affairs, or go out of the business, which is true; and many have gone out of the business rather than use such feed after they became aware of its baneful effects. I will briefly show one of the chief reasons why they are compelled to feed it or go out of the business, as follows: These brewers' grains, and like feed, can be bought, delivered, for about four to six dollars per ton, and two tons will go as far, and make a larger quantity of milk (of much poorer quality), than one ton of wheat middlings or wheat bran—which is the only proper and healthy food for the cows, and yields a rich quality of milk, and perfectly healthy. You see that two tons of the former feed, brewers' grains, would cost them from eight to ten dollars, and as far as the farmers are concerned they would receive more for the product in quantity; while the wheat middlings or bran would cost them from $18 to $22 per ton, and would not produce as much milk as the brewers' grains (but far better), though it would cost them from ten to twelve dollars more per ton. This is a great item, especially if they are not receiving enough money for their milk to cover the cost of their feed, if good feed was fed (wheat middlings and wheat bran), as I will show. The actual cost of feeding a cow daily on the proper food to produce a proper and healthy milk would be as follows: (Estimate made by best judges).

Hay, 20lbs. at $20 per ton, - - - - - -	0.20
Wheat middlings and bran at $20 per ton, 15 lbs. - - -	.15
	0.35c

Thus you see that the cost of keeping a cow in a healthy and well nourished condition, to give a proper milk for children, is thirty-five cents per day, not including the labor or interest upon the capital invested. We find that the cost of keeping this cow for the two hundred and seventy milking days in the

year is - - - - - - - - - - - -	$94.50
Keeping 95 days on hay at $20 per ton (balance of the year), -	19.00
Total,	$113.50

Thus you see that the actual cost to the farmer for keeping for one year a cow that only produces milk two hundred and seventy days is $113.50. Now, what does he receive for the milk produced by that cow? She will produce, if she is a good cow, two thousand quarts of milk in two hundred and seventy days, which is a high average. What does the farmer receive for it at the present arbitrary way of fixing the price of milk? (By these gentlemen of whom Prof. C. F. Chandler speaks in his report to the State Board of Health, before referred to, 1881-82.) The price that will be received by the farmer this year will be about thirty cents in the aggregate, or an average of two and a-half cents a quart per month. Now let us see what the farmer will receive for the annual product of his cow, which will cost him $113.50 to feed, if properly fed. If I have calculated correctly, he will receive for 2,000 quarts of milk, which is a large average for a cow, at two and a half cents per quart, for 270 days, $70; to keep the cow it has cost $113.50; less receipts for milk $70, which shows a loss of $43.50.

You see the farmer would actually lose $43.50 and his entire labor and that of his family for the year, besides other labor, if he did as he would like to do. But his family must live and his debts be paid; his interest falls due, and to keep a home for himself and his family he must resort to the most economical feeds in order that he may have a place to shelter his head. You will say, "Why does not the farmer charge more for his milk, and give us a good quality? the consumers are willing to pay for a good article, why not give it to us?" But, gentlemen, this is all true of the consumers; they are willing to pay for a good article, and should have such an article put into their homes. As is stated in the foregoing estimate of the production of good milk, they should receive it at 8 and 10 cts. per quart, and with it would come health and joy, because the infants would be more properly nourished and much sickness and death averted, as was shown in 1883. But you will ask, What barrier is in the way? It is the same set of men alluded to by Dr. Chandler in his annual report to the State Board of Health in 1881-82 that cheat the farmers by saying to them, "We hold control of these markets, and if your milk enters it must come at the price we fix for it, and, if you don't furnish it, we will skim and water until that which we can get will go around, until you are tired of holding on to your perishable supply and the Sheriff knocks at your door long and loud with an execution in his hand that will make you let go of your milk can and send it to us at our prices." Then, on the other hand, the consumer comes in for his share of the misfortune of the farmer, by having the diluted and adulterated stuff poured into his pitcher at a large price.

Gentlemen, you will pardon me for my long paper, but these facts bearing upon the milk supply are so important that I must mention them in order that you may understand the whole business. I can think of nothing that will illustrate the position of these men in society so well as the old saying that they are like a "bull in a china shop." While they are hooking and pawing the milk supply into the earth, through ignorance of knowing what they are doing, except as to their mercenary gains, they are actually breaking the delicate vessels of human life by slaying children by thousands annually.

There is another matter that I must call your attention to as medical men, and that is the practice of these men of procuring their supply of milk far up in the interior of the State, even three or four hundred miles from the city, and thundering it for twelve to fifteen hours over the railroads, through the burning sun, and landing it in the city in a necessarily stale condition. We all know that the value of milk depends entirely upon its freshness and richness; but the greater part, if not all of this milk, is from thirty-six to forty-eight hours old when it reaches the consumer's pitcher, and is literally churned by the jarring of the railroad cars in which it is brought to the market. You can understand the effect this milk has upon children. But they say they will go to Buffalo for milk if they cannot obtain cheap milk in any other way. It is very well for them, but how is it with the consumers?

I am obliged to leave many of the important matters as to the sanitary conditions of the milk supply, and the treatment it receives after it reaches the city, before it is delivered to the consumer, unspoken of in this paper; but if it is as interesting to you as it is important, I may treat upon those subjects at some future time.

Now, gentlemen, you will ask me how this matter can be remedied. Ah! what a field for philanthropy! If I were an Astor or a Vanderbilt—in riches, not in name—I would devote my entire time and surplus income to this cause, and thereby benefit mankind in a direct way to a greater extent than has ever been done before. They have spent of their means, like many other noble, charitable people of our great cities, to provide homes for the poor and hospitals for the sick; but how much better it would be if they would turn their attention to forming a society to look after the causes of sickness, and prevent it by looking after the adulterators of other kinds of food, as well as milk. I assure them—yes, I will guarantee them—that if they will look after the milk supply alone, they can save at least five thousand lives in a year, and more after the first year. If they look after all the adulterators of food, they can, after the first year, turn one-half of their present hospitals into prisons to punish the offenders, and have beds to spare. And those who are now confined in the beds of suffering, which have been so kindly furnished them, would be walking forth in health and in avocations of usefulness. What a blessed change for humanity!

But you will say, How can this be done? I will tell you. Let one hundred of our best citizens get together and constitute themselves a vigilance committee, if you please, and devote time and means to get laws passed, or executing laws already passed, which are ample if enforced. But they must have power behind them to have them enforced in these degenerate days. And I assure you that the whole matter can be regulated to perfection. They can establish a milk department, a food department, etc., to look after the interests of all. But you will say we are paying for all of these things now; what more do we want? We can only judge of the work of those having these matters in charge by the result of their labors. Look around you to-day and see what they are; and remember what I said about the icy hand of politics. It is sure death to all such noble works, at least to the degree that they should be carried on. I hope, in conclusion, gentlemen, that these facts will not rest upon you as the evening dew does upon the earth's surface, to be dispersed by the first rays of the morning sun, but will sink deep into your hearts and stimulate you to some action by which these evils may be corrected. You will thus perform a work that will be worthy of your closest attention, and which will be rewarded by our Heavenly Father.

ARTICLE IV.

A CASE OF VESICULAR MOLE. By A. PARKER CHAMPLIN, M.D., Bay St. Louis, Miss.

In submitting the following report of a case of vesicular mole for publication, I am instigated by the hope that, as it was an interesting case to me, it may prove so to others. As there are some unusual features about it, and as I have not been able to find the record of a similar case in the authorities at my command, I trust that if any reader should have come across such, he will call my attention to it.

Mrs. X., a native and resident of New Orleans, thirty-three years of age, was married at the age of sixteen, and has given birth to eight children, all of whom are now living and healthy. She has had one miscarriage about two months advanced.

I was requested to visit her on the 27th day of June last, when she informd me that she was flooding, and had been so with the exception of short intervals since she became *enciente.* She believed herself now advanced some four and a half or five months in gestation. I learned that previous to leaving the city for this, her summer residence, she had consulted and been examined by two physicians, to whose distinguished professional ability, which is second to none, I gladly bear testimony. One informed her that he did not consider her pregnant; the other pronounced her so, and some five months advanced.

Having long since become a doubter as to the positive diagnostication of pregnancy in the early months, I was not greatly concerned about this difference of opinion, and concluded to pursue a conservative course, especially as there were no symptoms calling for active interference, and I knew that no harm could result from such a procedure.

Submitting her to digital vaginal examination, I found vagina, os, and cervix normal; that is, the os was not shortened, soft, or more patulous than usual with those who have given birth to several children; discharge slight, and no uterine contractions. Being fully cognizant of the fact that flooding could be caused by internal hemorrhage, cystic degeneration of chorion villi, and placenta prævia, I questioned her as to the passage of grape-like vesicles; and she assured me that she had never passed any. Neither was there that greater degree of enlargement or boggy feel usual in such cases; nor could I find any positive symptoms of accidental internal hemorrhage, believing that had it occurred and persisted so long, abortion and other serious effects would have resulted. I therefore concluded that she was pregnant, and that when she was confined I would have a case of placenta prævia to deal with; and hence prescribed liq. opii. sed. and fl. ex. viburnum prunifolium, to be repeated every two or three hours until the hemorrhage ceased. Then she was to take the remedy three times daily, and to continue it for some time for its known sedative action on the pelvic viscera, and, as I think, hæmostatic properties as well. I enjoined her to assume the recumbent posture, to keep quiet, and to apply to the vulva cloths wet with vinegar and water. I also advised cool drinks, etc., with quinia Laroche, ferrated, as a tonic.

Let me say that the only *reflex* trouble from which she was suffering was excessive salivation, for which I advised potassium bromide internally and locally, with marked relief, as I have always found result in similar cases.

I intended seeing her the next day, but meeting her husband and learning that the hemorrhage was under control, I advised through him the continuance of the treatment, and asked him to let me know if there was any recurrence of the discharge.

About half past six A.M. on August 9, I was requested by the husband to call as soon as possible, as he feared she was threatened with a miscarriage. I reached their residence about seven o'clock, and was shown to her room. I found her in bed, suffering with efficient uterine contractions; pulse and temperature were normal and the hemorrhage but slight. My attention being called to something which she passed some time previous, I examined this, and at first thought it to be a large coagulum flattened; but as its consistence seemed firmer than that of an ordinary clot, I put it in a basin of water, washed it well, and found it to be placenta, or of a placentiform character.

Having thoroughly cleansed my hands in carbolic acid solution, which I prefer to the now popular bichloride, I made a digital examination, and found the os patulous, soft, dilatable, and about the size of a silver dollar. No cause existing for active interference, I deemed it best to pursue an expectant course, and, cautioning her to notify me should there be any increase of the flooding, I seated myself within call; repeating my examination twice within the next hour and a half, and finding the progress satisfactory.

About nine A.M., finding the os well dilated, I concluded to act. The uterus being much ante-verted, I rectified the position, and found the lower segment of the womb almost completely blocked by some soft, yielding mass. Believing it placental, and concluding that persistent flooding must by this time have caused the death of the fœtus, (while even if it were still alive, I knew from its prematureness and innutrition that it could not live,) I decided first to deliver the mass. This I attempted to do by gentle traction, but found it strongly adherent. Then gently insinuating my finger, and by abdominal pressure keeping the uterine cavity well within reach, I detached and delivered it. Keeping up expression, I re-introduced my finger, expecting to meet the presenting part of the child, and decide what further course to pursue. I was doomed to disappointment; for, instead of a fœtus, I found a soft, resilient mass, feeling much like a large-celled sponge, moistened; I at once knew from previous experience with what I had to deal. Pressing down the uterus, I with two fingers gently broke up and extracted its contents, manipulating in the centre, until about three-fourths had been expelled, when the uterus, contracting forcibly, caused expulsion of what remained. Confirming this by an examination of the cavity, I cleansed the vagina of what *dèbris* there was, and by expression secured retraction of uterus; thereby avoiding that accident, hemorrhage, so often a dangerous complication. This was a lucky escape in this case, as my patient could not have sustained much loss, without great danger, owing to the previous free and persistent flooding. Having had all soiled articles removed, and having applied binder and left my patient doing well, I turned my attention to the matter removed from the uterus.

On giving this—which nearly filled a very large chamber-pot, and which I judged would weigh about 6½ pounds—a critical examination, I found the upper portion, (that last expelled), to consist of clear, grape-like vesicles, ranging in size from a pin-head to that of a large scuppernong grape, growing and attached to each other like those generally represented in works treating on this subject. These vesicles were of pearly clearness, and grouped in beautifully formed clusters. This clear portion constituted about four-fifths of the mass; the remaining fifth being more or less mixed with coagula and bloody fluid, but easily separated therefrom. Below this and the portion first passed was the *placenta* or placenta-like body. When joined to the portion passed before my arrival it fitted well, and, conjoined, they formed a regular placenta, about 3½ inches in diameter, which was flattened, and in general appearance resembled an ordinary after-birth, which I considered it to be. The uterine surface was somewhat broken by the detaching force, but the amniotic surface was smooth and whitish, as though having the ordinary coverings met with in the normal placenta. On close inspection nothing membraniform could be found, nor was there any sign of a cord, or its remains. I could perceive the ramification of vessels, but very faintly, and I did not find any actual connection between the vesicles and uterine tissues, or between them and the placenta. If any existed they were rudimentary and very slight, being ruptured without my knowledge.

I much regret that, being quite ill while attending this case, I wasted a fine specimen, having forgotten to secure and preserve it. I have endeavored, however, to describe every part passed as accurately as possible.

This is the second case delivered by me, and the third coming under my notice, in a general practice of several years. The third case I met with in Biloxi and turned it over to Prof. E. L. Lewis, of New Orleans, who, assisted by Prof. Sam'l Logan, attended the patient in that city, the case proving an interesting and dangerous one. Prof. L. reported it in the *New Orleans Medical and Surgical Journal*, for December, 1881.

Consulting authorities, of which I have several of the latest editions, as well as some of various dates from 1810 on, I find that all, after mentioning different theories advanced as to etiology and pathology, teach that degeneration of the chorion villi is the only cause, and that this is almost always at the expense of the whole conception. Nowhere can I find any mention of the presence of placenta. In my case there was not even a trace of embryo to be found, this degeneration taking place either before or after the death of the fœtus, and if before, standing in the light of the cause of death.

The main point of interest in this case is the presence of the placenta. If this is an unusual freak, (which I can but believe), how are we to account for it? Several theories suggest themselves to my mind in this connection.

First. When the cystic degeneration commenced could it have been confined to that portion of villi which *atrophies*, the serotinous portion going on fulfilling its alloted destiny?

Secondly. Might there not have been a *placenta succentaria*, its villi degenerating and the natural portion growing as usual, or *vice versa?*

Thirdly. Could this have been a case of plural pregnancy; the embryos and one placenta (if two) degenerating, the other growing?

Fourthly. Could the mass have been an organized coagulum assuming the characteristics of a regular placenta in consequence of pressure to which it was subjected from above?

Fifthly. If the physician who pronounced the patient pregnant, and five months advanced, was correct, could cystic degeneration have been going on at the time of examination, the embryo's death being consequent thereon? If so, could absorption have resulted so quickly, (that is, in one and a-half to two months), and so completely as to leave no signs of its remains? Or, could the ovum, after his examination, have become detached and expelled during some period of excessive hemorrhage, Mrs. X. not being aware of its occurrence, and the placenta being or becoming attached over the circle of Bande, and continuing its development? Or, might the fœtus not have been dead at that time and for some time previous? If so, its discharge might easily have occurred without giving rise to any active symptoms?

The treatment, after delivery, consisted of carbolized vaginal injections, and perfect cleanliness, to avoid septic troubles, sulphate of quinia three times daily, with quinia Laroche, ferrated, as a tonic, the patient being quite anæmic, as was to be expected. With the exception of a slight chill on the third day—and which I considered caused by atmospherical change—the patient did well, sitting up on fifth day, contrary to my advice, though no serious result occurred. I saw her several days after ceasing my visits, and she was doing well.

Summing up, this case was unusual and interesting to me, from the presence of a placenta, and that *prævia*, in a case of hydatiform mole, there having been no symptoms pointing to cystic degeneration, except hemorrhage. Perhaps the implantation of the placenta prevented the passage of vesicles.

Before closing this article I will record that in salivation I have always found potassium bromide efficient, especially when the trouble is reflex. Its known sedative action on mucous membrane is far superior to the chlorate salt.

Again, since viburnum prunifolium was recommended as a uterine sedative, I have made it my standby, in conjunction with opiates, in cases of threatened abortion, and have been surprised to find that, even when not preventing its occurrence, it seemed to render the act less painful, and to lessen hemorrhagic loss. Such has been my experience in every case, especially in those between the fourth and sixth month of gestation, when flooding is apt to be so profuse. I cannot consider it a coincidence, as opiates alone do not give like results. I would be pleased to learn the experience of others in its use, especially as to its hæmostatic properties.

ARTICLE V.

THE MANAGEMENT OF PLACENTA PRÆVIA. By Q. CINCINNATUS SMITH, M.D., Austin, Texas.

When the physician in charge of a case of placenta prævia decides, for any reason, that delivery should not be longer deferred, regardless of the stage of pregnancy, the writer recommends, provided a few minutes time for preparation is admissible, that he should pursue the following plan: Give quinine, five to ten grains, every hour, in solution, until one or two drachms be administered. Prepare one or two gallons of hot saturated solution of alum, or other suitable styptic, and a syringe in good working order, with long nozzle curved at its distal end like a urethral sound. It is best that the point of the nozzle should be perforated with a number of small holes.

Place the patient in Sims' position, and bring the os uteri well into view. Introduce the syringe nozzle into the os uteri and slowly inject the hot styptic solution, and, as soon as the hemorrhage is checked, slowly rotate the curved nozzle around the os—injecting all the while—and thus separate the placenta from the uterus. When this has been well done, and hemorrhage has ceased, with the finger at once puncture the placenta at its thinnest available point, through to the membranes, and, if possible, puncture the membranes at the same time. Then quickly inject the hot styptic solution until the hemorrhage ceases again. If the membranes cannot be easily and quickly punctured with the finger, the amniotome should be used.

From the beginning of the operation an assistant should make steady pressure, in a proper manner, over the fundus uteri. At this stage of the operation, if it has not before (as soon as the waters have come away), the uterus will contract more or less vigorously, and if the down-pressing fœtus does not stop all hemorrhage, the hot styptic solution will promptly do so. If necessary, one or more hypodermics of sclerotic acid may be administered. Earnest and persistent effort should now be made to dilate and soften the vagina and os uteri, for which purpose Barnes' rubber dilators, distended with warm water and well lubricated, are very effective.

The labor can then be completed in accordance with general well-established principles, as the attendant—if properly furnished—is completely master of the situation, whatever may be the size, presentation, or position of the fœtus, provided no serious deformity of the pelvis obtains.

ORIGINAL TRANSLATIONS.

TREATMENT OF HYDATID CYSTS OF THE LIVER. BY L. G. RICHELOT. Translated from the *Union Médicale* by H. McS. GAMBLE, M.D., Moorefield, W. Va.

[*Concluded from page* 508.]

I do not believe, moreover, that the treatment of Récamier has to-day many partisans. You know that it consists in successive applications of caustics upon one point of the abdomen, intended to provoke an adhesive inflammation between the wall and the surface of the cyst, which shall protect the peritoneum at the moment of the escape of the fluid. Several of our teachers have modified it in its different steps; nevertheless, they agree in saying that it is long and painful, that it has provoked attacks of peritonitis, and that it is far from producing with certainty the adhesions so much desired; finally, it has happened to some authors to apply the caustics in face of an intestinal coil, in face of the gall-bladder, and you have just witnessed a new example of this kind of accident.

The large trocar, extolled by Boinet and long since adopted by M. Verneuil, is incontestably superior to the preceding method. It is thrust into the middle of the cyst, and one introduces into the canula, before withdrawing it, a sound of red caoutchouc, of a perceptibly equal calibre, and protected by goldbeater's skin, which prevents the entrance of air; the sound allows of injections being made and lets the hydatids escape little by little. It matters but little whether there be, or not, adhesions between the cyst and the wall; the presence of the tube provokes them, and after a few days the membranes escape freely until their complete elimination.

Is not this treatment also open to some objections? *A priori*, I confess to you that it has always appeared to me a little frightful. If the capillary punctures give rise sometimes to accidents, how could we be safe from all danger when we insert a voluminous trocar, and then substitute for it a caoutchone tube of a diameter naturally somewhat less? How can we help dreading the escape of the fluid and the peritonitis? And yet the large trocar has been tested, and it is impossible to deny the successes we owe to it. The reason, if I am not mistaken, is to be found, in great part, in a fact of which sufficient account is not taken: the frequency of adhesions at the moment of the operation. When the projecture of the cyst is marked, and the symptoms sufficiently clear to oblige us to intervene, the adhesions of the cyst to the wall of the abdomen are a common occurrence; M. Boinet has already spoken of this frequency. So, it is very evident that such a disposition removes all the dangers of puncture by a voluminous instrument.

Still, the operation by the large trocar has a rate of mortality. It is twenty-three per cent. in the article *Liver* of the *Encyclopædic Dictionary*, by M. Rendu.

In truth, it would be necessary to know under what conditions the reverses have been observed, in order to judge of the method with a complete understanding of the matter. Nevertheless, it is difficult for me not to preserve a secret fear about the dangers that it presents, if it concerns a cyst more or less pediculated, mobile, without adhesions, or if the trocar is introduced at a dangerous point, which may happen here as in the treatment of Rêcamier. Is there not something blind in this method that is repugnant to our modern habits of precision? There remains, finally, as a last complaint, that the cleansing of the cyst cannot be performed at once through a narrow opening, the escape of the hydatids is very difficult, and the treatment prolonged.

Gentlemen, all the methods that precede, have, as their point of departure, the avoidance of opening the abdomen. Those of which I am now going to speak to you rest upon a diametrically opposite principle: *the free incision of the peritoneum.* The method of Volkmann consists in incising the wall of the abdomen to the extent of several centimetres, stopping when the peritoneum is open and the wall of the cyst laid bare, giving time for adhesions, if they do not already exist, to form under the influence of the slight inflammation provoked by the wound, under an antiseptic dressing; then, to freely open the sac, when it is certain that the peritoneum is protected. It is, in short, the incision of Bégin, with this important difference, that Bégin had soiled instruments and hands, and placed in the wound a dossil of lint which, instead of provoking a slight inflammation and protective adhesions, produced infection, peritonitis, and death. Incision of the serous membrane, with the present precautions, enables one to see what he is doing, and no longer to operate blindly; by the free opening of the cyst, it becomes possible to make a total evacuation, an immediate cleansing, and to abridge, all things being equal otherwise, the duration of the treatment. But can we not do still better? I think so, and I would formulate willingly the general method applicable to hydatid cysts of the liver, in the following terms; *free incision of the peritoneum, exploration and variable treatment of the cyst.* I will try, by some examples, to illustrate and to justify this formula.

The 27th of May, 1885, M. Terrier presented to the Surgical Society the history of a hydatid cyst, mobile in the abdomen, and attached to the lower surface of the liver by a slender pedicle; this cyst had been taken for a tumor of the ovary and treated as such. After the opening of the abdomen, it was observed that the pedicle was directed towards the liver; the largest portion of the sac was extirpated, and the rest sutured to the abdominal wound, as is done in an incomplete ovariotomy. The patient recovered, after having for some time presented a biliary fistule. *Apropos* of this observation, M. Terrier expressed the opinion that it was perhaps necessary, with the resolution already formed, to treat thus all hydatid cysts of the lower surface of the liver, more or less salient into the abdominal cavity, perhaps even, under certain conditions, those of the convex surface.

In the month of August following, I succeeded M. Terrier in his service at the Bichat Hospital. There was then, in No. 23 of the Jarjavay ward, a man forty-six years of age, the bearer of a hydatid cyst of the liver, which my colleague had punctured the 18th of July. The puncture having given a puriform fluid, there was no ground for repeating it. After some hesitation, I decided to make a free incision of the abdominal wall, in order to approach the tumor, to explore it *de visu*, and to treat it according to circumstances. It seemed to proceed from the anterior border of the liver, to descend two fingers' breadth below the umbilicus, and to occupy the left hypochondrium; manifest fluctuation; general condition good. The 27th of August I made upon the linea alba an incision of ten centimetres, which reached two centimetres below the umbilicus. I reached the cyst little by little, and I found it adherent to the abdominal wall; with the finger I separated the adhesions over a small space, and I discovered that they were very intimate and seemed to prevail over a larger surface; then I stopped.

If I had had to deal with a cyst without adhesions, I would have drawn the pouch out, in order to empty it while protecting the peritoneum with sponges, excising a portion of it, and suturing the rest to the abdominal wall, as is done in an incomplete ovariotomy. But the tumor adhered strongly, and, on the other hand, its volume was not so excessive that I could not hope for its retraction and cure in a reasonable time after the evacuation pure and simple. Under these conditions I did not believe myself obliged to break the adhesions whether or no, and to open the peritoneum; I confined myself to making a long incision in the cyst, and I proceeded to its evacuation as completely as possible. A litre of puriform and yellowish liquid thus escaped; I explored with the finger, I introduced mounted sponges, I seized some vesicles with the forceps; in a word, I made at once a more complete cleansing than the opening with the large trocar would have permitted. Injection of sublimate, suture of the wall of the cyst to the lips of the abdominal wound, two large drainage tubes, antiseptic dressing. Apyrexia was complete, and the general good condition never for a moment flagged. The dressings were made at first every two days, without a new injection, up to the 5th of September; there escaped a little yellow, bilious, non-purulent liquid. Then, a multitude of vesicles having begun to escape with the puriform, always yellowish tinted liquid, an injection of sublimate was made every day.

The 1st of October the sac had become very small; after the 15th hydatids no longer escaped, the suppuration had ceased, and I removed the drains. The 31st of October the patient left the hospital with a narrow fistula, which necessitated a few dressings; then he resumed his occupations and his ordinary life. The treatment lasted two months up to the time of his leaving.

From this observation and the reflections that have preceded it, we may, gentlemen, deduce a few rules.

In always commencing the treatment of a hydatid cyst of the liver by a free incision of the peritoneum, surrounded by the ordinary precautions, we have the advantage of being able to explore the tumor, and to decide intelligently as to the best course to pursue. So, two cases may present themselves.

1st. The cyst comes from the lower surface of the liver; it is attached to the organ by a broad base or by a pedicle; it causes a more or less considerable prominence in the abdomen. Then, if it is of a very large volume, which indicates a difficult retraction, there will be an indefinitely prolonged cure, an excessive and dangerous suppuration; if, on the other hand, it is not adherent, or if the adhesions can be broken, there is every advantage in isolating it from the organs, in drawing it out, in opening it whilst protecting the peritoneum with sponges, in resecting the greater part of it, in suturing the rest to the abdominal wound; in a word, in proceeding as in an incomplete ovariotomy. If the cyst is of moderate volume and without adhesions, one may do the same; if, on the contrary, it is of moderate volume and very adherent, there is no necessity for treating it in a radical manner. In effect, the retraction and the cure will be accomplished in a few weeks; it suffices, then, to incise it, respecting the adhesions, and avoiding the opening of the peritoneum. This is the way in which I proceeded with my patient, after having recognized the situation and decided *de visu* that I had no need to go further.

2d. The cyst is salient on the convex surface of the liver.

Here I depart from the facts that we have observed, my colleagues and myself, and I confine myself to indicating what will be done in analagous cases, but not identical with those we have seen. If, after having incised the wall in front of a tumor of the convex surface, we find a cystic membrane separated from the exterior by a thin layer of hepatic tissue, without adhesion to the abdominal wall, capable of being drawn out, engaged in the wound and resected, would there be no advantage in comporting onesself very nearly as in the case of tumors of the lower surface, in performing a partial excision and in suturing the cyst to the wall, in order to attain this double purpose: to open largely the focus and to diminish its extent? If, on the contrary, the cyst is profoundly included in the parenchyma, there will always remain, of the counsels which I have given you, the three following points: 1st. To make the free incision and to explore the surface of the tumor. 2d. To await, if there is any ground for so doing, the formation of adhesions. 3d. To open the cyst in good earnest, at the place that shall have been selected, and to the extent that shall be deemed useful in the consecutive treatment.

Perhaps some surgeons will think it audacious to propose, for all the hydatid cysts of the liver, so grave an operation as laparotomy. It is not necessary, however, to be frightened by words. The incision of Volkmann is a laparotomy, since it opens the peritoneum, but it is a laparotomy on a small scale; it is inoffensive, unless one performs it with dirty hands. It might be said, in some sort, that it binds to nothing, for it is not a question of doing, in all cases, a complex and radical operation.

Gentlemen, these somewhat novel ideas upon the treatment of hydatid cysts of the liver were laid before the Society of Surgery the 25th of November, 1885; several persons spoke, either for the purpose of supporting or of combating them. M. Terrier, from whom I had taken example, was naturally among their defenders. He cited a new patient recently operated upon, in whom an enormous cyst filled almost the entire belly; he had incised the abdominal wall, evacuated 71 hydatids, freely dissected the adhesions that bound this vast pouch to the wall, to the epiploon, to the intestine, to the ileocæcal appendix, and then had drawn it outside and partially resected it; the patient got along well. Let us add that she recovered in a few weeks, returned home, and hung herself.

In his turn, M. J. Championnière remarked that he had operated by ablation upon a pediculated hydatid cyst of the liver, the thick wall of which adhered everywhere, and that his patient was twenty-one days getting well; by the incision of Volkmann, upon two other cases, of which one had remained only a week. M. Verneuil, on the contrary, held to the large trocar, saying with just reason that at the time when the abdomen was seldom opened and antisepses had not been created, this treatment constituted a real advance. Our excellent master has met with some reverses, but with cases peculiarly difficult, in which any other method might have failed; ordinary cases have given him excellent results. He makes at present, as Boinet advised, a double puncture with the trocar, and, the seventh day, after the establishment of adhesions, he incises the intermediary bridge, and obtains thus a much larger opening.

I had reproached the trocar with the long duration of the treatment; now, it might be five or six weeks on an average, whilst in the case of my patient there was still a small fistula after two months or more. "On an average" means here, "ordinarily;" for M. Verneuil certainly did not mean to say that with the trocar the trèatment is shorter. In reality it is a minimum; for all surgeons have seen, by the trocar or by the method of Récamier, which amounts to the same thing after the escape of the fluid, the final obliteration was deferred much longer. My own patient is a proof of it, for I practiced on him, in short, a simple opening of his cyst, analogous to a large puncture; and if the cure has been longer than with the patients of MM. Terrier and Championnière, it is simply because I did not perform a partial resection. How long would it not have lasted in the case of the second patient of M. Terrier, if he had used the trocar in that enormous cyst fillng the abdomen and adhering everywhere?

M. Verneuil is thankful to the operation by the trocar for being so simple that any physician can perform it. But our aim is not alone to counsel simple methods for inexperienced surgeons; it is also to recommend the best possible measures to surgeons capable of following them.

Finally, M. Verneuil vaunts the benignity of the operation. But hydatid cysts of the liver are not among us of an extreme frequency, and the practice of a single surgeon does not embrace all possible cases. I have made above some reservations in this respect; I will add, as a proof, that the adherent cyst of M. Championnière was fused with an intestinal coil of 26 centimetres length, and that a puncture would doubtless have produced the gravest results. M. Terrier has maintained that in enormous cysts the trocar exposes the patient to extended suppuration, prolonged and more dangerous than laparotomy and resection of the tumor; and M. Polaillon has recognized this, while admitting the puncture with the large trocar as a general method.

So, MM. Verneuil, Trélat, Polaillon, and Tillaux, who replace the trocar by a long piece of canquoin, left stationary for five or six days, seem to me to attribute to the intervention that I propose a gravity that is far from belonging to it when they refuse to treat all the cysts of the liver by "laparotomy," as if I had advised opening the belly, for all cases indiscriminately, from the pubis to the xiphoid appendix. I have taken, as a basis of the treatment, the free incision of the peritoneum by the procedure of Volkmann; that is to say, a discrete, attenuated laparotomy, which is not dangerous of itself when it is properly done, and which has the advantage, however small it may be in ordinary cases, of not being blind. If you meet with solid adhesions and a cyst of moderate size, included in the parenchyma, you open it with a bistoury, as you would have done with the trocar, to a suitable extent, and with the greatest amount of safety; if adhesions do not exist, you await their formation under the antiseptic dressing, and you open it eight days later, as M. Verneuil does when he cuts at the end of a week between his two punctures. Thus far I do not see what the partisans of the trocar can reproach incision with.

If you find an enormous cyst standing out from the liver and adherent to the other organs, we are not far from agreeing upon the insufficiency of the trocar, the indefinite prolongation, and even the dangers of the cure by this means, and the opportuneness of a true laparotomy. Resign yourselves, then, to an intervention which has the value of an incomplete ovariotomy.

But here is the litigious point. You come upon a mobile cyst, or one with slight adhesions, of large or moderate volume, springing from the lower aspect of the liver, perhaps also from the convex surface, clearly pediculated or sessile, in any case salient outside of the liver and partially enucleable, in such a way that one can draw into the wound the part that presents itself. Do you believe that the free incision of the cyst, in operating outside of the abdomen, if necessary, the resection of a part of the pouch, and, finally, the immediate suturing to the edges of the wound, constitute a graver operation than those iliac ani made by M. Verneuil with so much predilection, and, I add, with such fine success? As sole response I will cite a case that M. Ch. Monod has reported, in the session of December 2d, in support of my conclusions:

A young girl, 18 years of age, had carried for several years a large cyst of the liver, which had already been punctured, and making a prominence at the epigastrium which invited incision, so to speak. The operation, performed the 12th of November, 1885, was of extreme simplicity. The pouch was laid bare by an incision of 7 to 8 centimetres; there were no adhesions; a puncture, with the largest trocar of Potain's apparatus, permitted the withdrawal of a litre and a half of clear fluid. The cyst, seized with forceps and gently drawn outside, was freely opened, and one was able in this way to extract a dozen of daughter vesicles, then the germinative membrane entire. The pouch was sutured to the edges of the wound by multiple points; chloride of zinc, tampons of idoformed gauze, two large drains at the end of four days, and daily washings. The cavity diminished day by day; not for a single moment was the cure placed in doubt. And our colleague adds the following reflections: "One operates, so to speak, outside of the abdomen. The abdominal wound is relatively small; it does not exceed the limits of the cyst, which presents itself at the opening and fills it up by its presence alone; one does not perceive any of the organs contained in the abdomen. When it can be thus conducted, the operation is harmless; so in those cases where the cyst is accessible and comes to place itself *en rapport* in a sufficient extent with the abdominal wall, it is by the antiseptic incision that we ought to treat it; one will join thereto, if necessary, the resection of a part of the pouch. This means, which assures a rapid and integral evacuation of the liquid, of the hydatids, and of the germinative membrane, gives a prompt cure without being more dangerous than any other; it may be maintained even that it is the most innocent, since it allows an opening proportionate to the volume of the cyst, and a complete washing out of the cavity, whatever may be its extent. Finally, it enables the surgeon to explore the tumor and its connections, and to modify his original plan according to the indications that he may meet with on his way."

This last expression will serve as an answer to another assertion made before the Society of Surgery, to wit, that one could not treat all the cysts of the liver, so different from each other, by a single method, the abdominal incision. It is exactly, in my opinion, because the indications vary that it is well to commence always by the means that permits of recognizing them.

I believe myself authorized, gentlemen, to summarize thus the rules of intervention in hydatid cysts of the liver that have relapsed after capillary puncture: 1st. Free incision of the peritoneum (antiseptic, be it understood); 2d. Exploration of the tumor; 3d. Variable treatment of the cyst, appropriate to its volume and its connections.

SELECTIONS.

THE TREATMENT OF INTUSSUSCEPTION BY INFLATION AND MASSAGE. By W. B. Cheadle, M.D., F.R.C.P., Senior Physician to the Hospital for Sick Children, Great Ormond Street.

In these days of the apotheosis of abdominal surgery, instances of the cure of intussusception by inflation and manipulation of the abdomen deserve to be recorded as a useful reminder of the value and efficacy of the milder method. Three consecutive cases have been successfully treated in this way at the Hospital for Sick Children during the past eighteen months—two under my own care, and a third under that of my colleague, Dr. Barlow.

The first case (for the history of which I am chiefly indebted to the registrar, Dr. Chaffey) is that of Ernest C——, aged five months, admitted July 12th, 1884, with constipation, frequent vomiting, and passage of blood from the rectum. The doctor who had been called in to see the child in the first instance diagnosed intussusception, and advised that he should be taken to the hospital without delay. The further history elicited from the mother was to the effect that the infant had been healthy previously, except for slight bronchitis and occasional constipation. One of these attacks of constipation commenced on the 4th (eight days before); and on the 7th, the bowels not having been open for three days, the mother administered a dose of "white magnesia." The following day (the 8th) the child had a natural stool. On the 9th half a Steedman's powder was administered, followed by two actions on the 10th. The other half of the powder was given, but the bowels were not moved again. On the next afternoon (the 11th—*i. e.*, the day before admission) the child kicked and screamed so much after being put to the breast, as if he had pain in the abdomen, that the mother applied hot flannels. These seemed to give relief, and he slept for some time. In the evening, however, he became restless, and about midnight began to vomit, which he continued to do repeatedly. For the last hour the vomit was green and watery. At 5 A. M. a thin bloody discharge began to be passed from the bowel, and this recurred three or four times. The infant was seen by me almost immediately after it was admitted. It was fat, but somewhat pale and flabby; it did not appear distressed, although it had frequent hiccough. The temperature was subnormal. The abdomen was not greatly distended, but more resisting to palpation than usual, and the handling evidently caused discomfort. Passing from side to side, about an inch above the level of the umbilicus, an elongated sausage-like tumor could be distinctly felt. It extended into the left flank, and was there lost. It could not be felt in the right flank, although it commenced to the right of the middle line. It was smooth, could be moved upwards and downwards a little, and did not appear to be very tender. Examination by the rectum showed it to be empty. There were no fæces. The withdrawal of the finger was followed by the discharge of thin bloody fluid. An injection of warm water was at once given with an ordinary Higginson's syringe, but not more than two syringefuls could be passed in: it was forcibly returned at once, in spite of all attempts to prevent it. Injection of air was accordingly substituted; four syringefuls were introduced, and kept in by pressing the folds of the buttocks and the skin of the anus closely round the base of the nozzle of the syringe. At the same time the abdomen was kneaded externally. It was found that at least three persons were required to carry on these operations satisfactorily—viz., one to work the syringe, one to compress the anus and prevent the escape of air, and a third to manipulate the abdomen. After this process had been continued for some minutes the tumor was found to have disappeared. On careful re-examination a quarter of an hour later no tumor could be detected. When, however, the child was again examined by the house-surgeon, Dr. Thomson, some hours afterwards, a firm, sausage-like tumor was again distinctly felt in the right hypochondrium. Digital examination again showed the rectum absolutely empty except of sanious fluid, which followed the withdrawal of the finger as before. The injection of air and massage were accordingly repeated by Dr. Thomson under chloroform, which greatly facilitated the proper carrying out of the operation. This time ten syringefuls of air were injected, when the bowel was felt to become hyper-distended in the left flank. After a few minutes the air was allowed to escape, and it was then found that the characteristic tumor had again disappeared, although it was thought that the colon could be felt more rigid and thickened than normal. This would probably be its condition from the swelling of congestion. About four hours later the child passed a natural motion, and again took the breast readily; the bowels continued to act regularly, the tumor did not return, and after a few days the little patient was discharged well.

The second case (for the notes of which I am also largely indebted to the registrar) was that of James S——, aged five years and a half, admitted May 27, 1885. On the 20th he had been suddenly seized with violent pain in the lower part of the abdomen, which recurred constantly day and night, with frequent vomiting. Slime and blood passed from the bowels for the first two days, but no fæcal matter. Subsequently, the bowels did not act until the 26th, when a little hard fæcal matter passed. After this the vomiting and pain were much less. A similar attack was said to have occurred three years ago. The present one was attributed to getting wet on walking home from a friend's house, where he had supper. On this occasion a fish-bone stuck in his throat, and the father gave him some ale to wash it down. These events happened on the 19th, the night before the pain and vomiting commenced. The patient being admitted late in the day, and there being no urgent symptoms, he was not minutely examined by the house-physician until the evening. In the meantime he had once passed some blood and mucus, and afterwards blood alone. Examination showed the abdomen unduly distended, and a large sausage-like tumor could be felt, extending from the lower epigastric region to the left hypochondrium. It was almost identical in character and situation with that in the previous case. The rectum contained only some bloody fluid. Dr. Thomson at once communicated with me. On my arrival, finding that there was no doubt about the existence of intussusception, inflation was carried out as before by Higginson's syringe, under chloroform, and accompanied by massage. As the air began fully to distend the intestine, the tumor was felt to pass gradually from the left hypochondrium to the right flank, and finally disappear. After a few minutes the air was allowed to escape. No tumor could be found, but, to make assurance doubly sure, the inflation and massage were repeated, and continued for a longer period. At the close of this the abdomen was again examined. The only sign of the tumor which could be detected was some rigidity of the bowel in the region of the cæcum. This remained, and was followed by pain and tenderness there. Subsequently there was increased tympanites and general tenderness, with diarrhœa, but no marked rise of temperature. These symptoms abated very gradually and with many fluctuations, the resistance and tension in the right iliac fossa and the diarrhœa not finally subsiding for some weeks. At the beginning of August the boy went out well.

The third case, under the care of my colleague, Dr. Barlow, was closely analogous to the first case in the conditions found and in the result achieved. For the details of it I am indebted to the kindness of Dr. Swift, house-physician to the hospital at the time, who had the conduct of the case in the emergency. Amy McF——, aged six months, was admitted on June 7, 1885, at 11.30 P. M. She had been for some time an out-patient on account of diarrhœa, and for the previous four days she had not been so well, having been without medicine. At 1 P. M. on the day of admission—*i.e.*, about ten hours before—she had suddenly begun to scream violently every few seconds, kicking and wriggling about, and vomiting frequently. She passed some bright-red blood and mucus, but no fæces. The screaming and vomiting continued during the whole of the afternoon and evening, until she was brought to the hospital. She was a healthy looking child, but evidently in great pain, screaming and kicking continually. The right side of the abdomen felt empty, especially in the region of the cæcum; while on the left side there was a tumor, seemingly about two inches thick and some three inches and a half long, lying transversely from just above the umbilicus to the left hypochondrium, and there curving slightly downwards. It was freely movable and firm; no impression could be made upon it. Intussusception was diagnosed, and the child was forthwith placed fully under the influence of chloroform. The above position of the tumor was then verified. Nothing could be felt in the rectum, but a little blood escaped. The bowel was inflated, as in the previous cases, with a Higginson's syringe, and the abdomen kneaded by the hand. The tumor could be felt receding as inflation proceeded, until the abdomen was fully distended. When the air was allowed to escape, a slight thickening could still be felt in the region of the tumor. Dr. Swift accordingly again inflated the bowel, and this time the whole course of the large intestine could be clearly seen. On the air escaping once more, no tumor, thickening, or resistance could be found anywhere. A drop of laudanum was administered after the child had regained consciousness, but as she continued to scream, chloroform was again administered lest the excitement should cause return of the intussusception; four hours' sleep followed. The next day the child was well, no thickening or tumor could be detected, and no further trouble followed.

The point chiefly worthy of remark in the first case is the return of the tumor after its disappearance on the first inflation. The explanation seems to be that the intussusception was only partially overcome in the first attempt. This explanation is rendered probable by the fact that *ten* syringefuls of air were introduced on the second occasion, instead of only *four*, as in the first, the bowel unfolding more easily under the distending pressure, and admitting at once a larger volume of air. If the tumor had merely been displaced by the first operation, it would have quickly returned when the pressure was relieved by the escape of the introduced air, and some trace of it would have been found at the examination a quarter of an hour later. The use of chloroform probably greatly aided in the success of the second inflation by preventing the resistant contraction of the abdominal muscles.

In the second case, the immediate and complete reduction of the invagination at the first attempt, and its failure to return, are deserving of note; and also the prolonged typhlocolitis which followed, partly due possibly to the more prolonged distension and massage, and partly to the greater congestion of the gut from longer strangulation. The history of pain and vomiting, probably indicating partial invagination, extended in this case over a week, in the others only twenty-four hours and ten hours and a half respectively. The successful use of inflation in an instance where the symptoms of intussusception had existed so long is very noteworthy. From the history of a previous attack of pain and vomiting, it seems probable that the boy had suffered from typhlitis before, and that the present intussusception had its origin in slight typhlitis. The valve orifice being thus rendered more rigid, the involution of the large bowel by the more active peristalsis of the small intestine would be greatly favored.

The third case corresponds very closely with the first. The intussusception was recent; it was completely reduced, and no after-consequences of any kind followed.

THE DIETETICS OF PULMONARY PHTHISIS. By Prof. Alfred L. Loomis.

The dietetics of pulmonary phthisis is often the most difficult as well as the most important element in its successful management.

In the limited space at my disposal I can only give general rules and an outline of the practice which experience has led me to adopt.

Three things require consideration:

1st. *The most suitable articles of food.*

2d. *The time and quantity of its administration.*

3d. *The use of artificial digestives.*

Since the object sought is the maintenance of the highest possible nutrition, and as this must often be done with feeble digestive and assimilative powers, the selection of food will not be determined solely by their relative value (chemically) as food products, but quite as much by the facility with which they are assimilated.

The best foods are those from which the system gains the most heat and force-producing elements with the least proportionate expenditure of digestive and assimilative force.

Milk is undoubtedly the best food of all *per se*, but in many cases with weak digestive power more nutrition is gained from its weaker ally, kumyss.

Of the albuminoids, meat, especially beef, and eggs are the most valuable.

The best hydrocarbons are cod liver oil, butter, cream, and the animal fats. Sugars and starches should be avoided as far as possible, since they tend to fermentation and cause both gastric and intestinal dyspepsia. Only occasionally will a patient be found who is benefited by their use. They should be employed, therefore, only for variety in diet, and to avoid that disgust for all food so apt to be engendered by a monotonous diet.

Phosphorus, so important, especially in tubercular cases, is secured by preparations of the phosphates, which should not be in the form of syrups. Vegetables and fruits may be required in the earlier stages to avoid monotony, and later to satisfy a capricious appetite, but they should be restricted to the minimum and to such as contain the least saccharine elements.

Two very distinct classes of phthisical patients must be recognized, those under thirty and those over forty. It may be stated as a general rule that for the first class the basis of all dietetic treatment must be the hydrocarbons and phosphates. They are often *the curative* agents in young subjects.

On the other hand, the albuminoids must constitute the principal food of the second class. It is worthy of note that often in phthisis the demands of waste and repair not only enable young people, who usually object to all forms of fat, to take and assimilate, but even cause them to exhibit a decided fondness for all forms of fatty food. Older subjects, who in health use little albuminous food and more fat, are able to digest large amounts of meat, while fats cause intestinal dyspepsia.

In selecting special articles of diet for these two classes, it is important to remember that there are distinct stages which consumptive patients pass through as regards their digestive powers. The first covers the period during which digestion and appetite are unaffected. The second begins with the first indication of septic infection; is marked by intermittent pyrexia and gastric irritability. It extends to the time at which the stomach refuses solid food. The third covers the remainder of the patient's life. It is in the first stage that the best results are obtained.

Systematic dieting should be begun, therefore, upon the first suspicion of a developing phthisis. The diet can no longer be indiscriminate, but the rules given below should be strictly adhered to. For young patients meat must be, and butter and cream are to be, used freely. Milk should constitute the principal drink, in quantities of from two to four quarts a day. Other articles should be taken sparingly, simply to avoid monotony. Each meal is to be supplemented by a generous allowance of cod liver oil (℥ss. ℥ii.) The phosphates, so valuable to this class of patients, can be supplied in sufficient quantity only by special preparations. For patients over forty meats should be lean rather than fat, and be taken in large amount. Two or three pounds of beef, three or four quarts of milk, and three or four eggs may be given to such patients in twenty-four hours.

In the second stage, changes are required in the methods of preparing the food rather than in the articles employed. All the food must be given in fine division and prepared in the most palatable manner. Beef may be scraped or chopped with a dull knife, only the fine which adheres to the blade being used, and eaten raw or lightly and quickly cooked, the essential points being the removal of all coarse fibre and rendering it palatable to the patient. Milk may be taken raw, boiled, cooked in custard, curdled, or shaken with cracked ice and a little salt. Eggs are best taken raw or soft boiled. Kumyss may in part take the place of milk, and the various peptonoids of beef, milk, etc., will relieve the enfeebled digestive organs as well as afford valuable nutrition. Cod liver oil will require emulsification and fresh emulsions are to be preferred to the stock preparations. Practically I have found an emulsion of oil, pepsin, and quinine available when others caused indigestion and offensive eructations.

In the third stage, when only prolongation of life can be expected, the forced diet of the earlier stages must be abandoned. When a hearty meal causes cough and vomiting, with consequent exhaustion, better results will be obtained with smaller quantities of food. In such cases the food must be reduced in quantity, given more frequently, and should consist largely of artificially digested preparations.

It is quite customary to delay the use of digestive ferments until the latter stages of the disease, but since it is in the first stage almost solely that we effect a cure, it seems the wiser course to concentrate all our forces upon the disease at this time.

When we wish to crowd the nutrition, twenty or thirty grains of pepsin with fifteen or twenty minims of acid hcl. directly after eating and ten or fifteen grains of pancreatine one hour after taking food will enable a patient to digest an amount of food which otherwise would produce an acute dyspepsia. When the digestion of starches is at fault or requires assistance, the diastase alone may be given with or after the meal. In the second and third stages artificial digestion becomes a necessity.

Some of the most important rules which govern the dietetics of phthisis may be formulated as follows:

1. Every phthisical patient should take food not less than six times in the twenty-four hours. The three full meals may be at intervals of six hours with light lunches between.

2. No more food should be taken at any one time than can be digested easily and fully in the time allowed.

3. Food should never be taken when the patient is suffering from bodily fatigue, mental worry, or nervous excitement. For this reason mid-day naps should be taken before, not after, eating. Twenty to thirty minutes' rest in the recumbent posture, even if sleep is not obtained, will often prove of more value as an adjunct to digestion than pharmaceutical preparations.

4. So far as possible each meal should consist of such articles as require about the same time for digestion, or, better still, of a single article.

5. Within reasonable limits the articles of any one meal should be such as are digested in either the stomach or intestine alone, *i. e.*, the fats, starches, and sugars should not be mixed with the albuminoids, and the meals should alternate in this respect.

6. In the earlier stages the amount of fluid taken with the meals should be small, and later the use of some solid food is to be continued as long as possible.

7. When the pressure of food in the stomach excites cough, or when paroxysms of coughing have induced vomiting, the ingestion of food must be delayed until the coughing ceases, or an appropriate sedative may be employed. In those extreme cases where every attempt at eating creates nausea, vomiting, and spasmodic cough, excellent results are attained by artificial feeding through the soft rubber stomach tube.

8. So long as the strength will permit, assimilation and excretion must be stimulated by systematic exercise, and when this is no longer possible, the nutritive process may be materially assisted by passive exercise at regular intervals.

The following may serve as a sample menu for a day in the earlier stage. The meat soup is made by digesting finely chopped beef (1 lb.) in water (Oj) and hydrochloric acid (5 *m*) and straining through cheese cloth.

MENU.

On waking.—One-half pint equal parts hot milk and vichy, taken at intervals through half an hour.

8 A. M.—Oatmeal with abundance of cream, little sugar; rare steak or loin chops with fat, cream potatoes, soft boiled eggs, cream toast, small cup coffee, two glasses of milk.

9 A. M.—Half ounce cod liver oil, or one ounce peptonized cod liver oil and milk.

10 A. M.—Half pint raw meat soup; thin slice stale bread.

11-12.—Sleep.

12:30 P. M.—Some white fish; very little rice; broiled or stewed chicken; cauliflower; stale bread and plenty of butter; baked apples and cream; milk, Kumyss or Matzoon, two glasses.

2 P. M.—Half ounce cod liver oil, or one ounce peptonized cod liver oil and milk.

4 P. M.—Bottle Kumyss or Matzoon; raw scraped beef sandwich.

5:30-6 P. M.—Rest or sleep.

6 P. M.—Some thick meat or fish soup: rare roast beef or mutton; spinach; slice stale bread; custard pudding; ice cream.

8 P. M.—Half ounce cod liver oil, or one ounce peptonized cod liver oil and milk.

9-10 P. M.—Pint iced milk; cup meat soup.

1-2 A. M.—Glass milk, if awake.—*Journal of Reconstructives.*

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ABSTRACTS.

THE GENERAL MANAGEMENT OF UTERINE FIBROIDS [FIBRO-MYOMA] (J. Knowsley Thornton, M.B., C.M., in the *Lancet*). Before proceeding to the consideration of the surgical treatment of this common disease, I will say a few words about the medical and dietetic treatment, because, seeing as I do a large number of cases in consultation with my medical brethren, and of cases who come to me from them, for an opinion as to whether any active treatment is necessary or advisable, I am much impressed with the fact that a great many of the patients, who might lead comfortable lives if they were wisely guided as to their diet and general method of life, are allowed or advised to follow a course which makes them worse instead of better, and tends to bring them into the hands of the surgeon.

When a patient presents herself with a small or moderate sized tumor I always begin by asking the following questions: 1. Are you getting so much larger that you have to alter your clothes? 2. Do you suffer any inconvenience from your increased size? 3. Do you suffer pain generally or at the monthly periods? 4. Are the monthly periods regular as to time, and are they prolonged or excessive? 5. Is the action of the bowels or that of the kidneys or bladder interfered with; and are there pressure symptoms, such as swelling of the legs and feet? When these questions have been answered, I ask for a sketch of the usual diet and the habit as to stimulants, and then as to the amount of rest taken at the onset of the period and during the flow. Finally, I inquire whether any special medical treatment has been adopted. If the first three questions are answered in the negative, as they are in the great majority of cases, the chances are that, with a little good direction as to medicine, food, and drink, there will be little need to take into consideration any surgical treatment. Now, I find that in the great majority of cases the patient has been told that she must live well, and take plenty of wine, beer, or spirit, to make up for the free periods and support her strength. There cannot be a greater mistake. The disease, in its early stages always, and its later stages generally, is found in patients who have a tendency to make flesh and blood fast, and if their alvine and urinary evacuations are carefully regulated, and they are advised to take red or butcher's meat sparingly, and live chiefly on fish, white meat, eggs, milk, and vegetables, and practically wear the "blue ribbon," or only take the smallest quantity of wine or weak spirit-and-water, when their digestion is aided by so doing, the disease will stand still, and their tumors give them little or no inconvenience. They should also be encouraged to take regular walking exercise in the intervals between the periods, but to remain if possible at perfect rest when they occur, and more especially during the congestion which precedes the flow. It is also a common practice to give ergot during the menstrual flow, and I believe it is a great error. The growth cannot then be starved by contraction of the uterine muscle, for it is by its physiological nerve stimulation abundantly supplied with blood, and at the most the flow is checked, which is nature's natural outlet for the increased blood-supply, and thus is increased the congestion upon which the growth feeds. The ergot should be given with some nux vomica, which aids its action, and with other vegetable bitters, which prevent it from disagreeing with the stomach, in the intervals between the periods, and a tonic contraction is kept up in the uterine muscular fibres which starves the growth. Then, again, it is a common practice to give these patients iron because they are often anæmic from loss of blood. I believe this is just as harmful as giving them red meat and wine. Anyone who has watched and studied many of these cases will see that iron, red meat, and wine are the things upon which fibro-myomata grow, flourish, and bleed most. It would occupy too much time to inquire thoroughly into the life-history of these growths, but I am convinced that the ovarian nerve stimulus, which finds its natural outlets in regular menstruation, married life, and maternity, are their great enemies; and if we argue back from these, it is easy to see why iron and meat, the blood-givers, and wine, the great stimulator of the circulation, feed and stimulate the nerve forces, which in the majority of these patients have not and cannot have their natural outlet, and so, like all forces which are excited only to waste, run riot in disease. I do not mean to say that all cases can be prevented from growing by such simple measures, but I do unhesitatingly say that all patients will be made more comfortable by strictly adhering to them, and the large majority will find that they can so effectually check the progress of the growths that they will elect rather thus to regulate their lives than face the serious risks of surgery. I frequently see a patient with a tumor growing fast with all sorts of pelvic pains and discomforts, and with hemorrhage which threatens to become exhausting. I sketch out a line of treatment, especially dwelling upon the importance of avoiding stimulants and the excessive use of red meat, and advise her to see me again in a few months, saying that it will then be time enough to talk about surgery. When the time comes for the second consultation, the patient comes, not to talk about surgery, but to say how much better she is, and to ask for some further and perhaps more stringent and definite rules as to diet, or for some variation in the aperient or tonic.

PELVIC HÆMATOCELE.—In his recent Ingleby lecture on this subject, Mr. Lawson Tait summarizes his views as follows: We come, then, to the following conclusions: That in the great majority of cases of extra-peritoneal hæmatocele the disease may be left alone, being rarely fatal, and that it is to be interfered with only when suppuration has occurred. That, on the contrary, intra-peritoneal hæmatocele is fatal with such almost uniform certainty, that so soon as it is suspected the abdomen must be opened and the hemorrhage arrested. In the overwhelming majority of cases the source of the hæmatocele will be found in the broad ligament, and then it can be dealt with, and with every prospect of success. If any one objects to this, I appeal again to the canon of surgery, which is of uniform application. For surgical hemorrhage cut down and tie the bleeding point; if a big branch of the femoral artery were bleeding, my colleagues who deal in such cases would cut down and tie it. Why should Poupart's ligament be a line of demarcation within which this surgical writ will not run? Why should my friend Dr.—— be allowed to do to the external iliac artery what I am prohibited from doing to the internal liac division? Indeed, at page 202 of Bernutz and Goupil's work they assert this principle: "The indication in such a case is plain—we must stop the hemorrhage."

THE TREATMENT OF PLACENTA PRÆVIA.—Dr. Phanuel E. Bishop describes in the *Boston Medical and Surgical Journal* a method of treating placenta prævia, some points of which are not found in the standard works on midwifery. His first case is given in full: On May 16, 5 P.M., I was called to attend Mrs. B., who had nearly completed the seventh month of her fourth pregnancy. She was under my care during her last two confinements, which were normal in every respect. While quietly sitting in a chair, without any pain or other warning whatever, a profuse hemorrhage from the vagina occurred, which continued about ten minutes. It had nearly ceased upon my arrival. No examination was made at this time. She was put to bed and the precautions taken which are customary in cases of accidental or unavoidable ante-partum hemorrhage. At 10 P.M., I was called again. Another gush had taken place at 9 o'clock, which had now ceased. An examination was now made. After removing a small clot, the os and cervix were carefully examined by both touch and speculum. There was little or no dilatation of the former or obliteration of the latter. I did not try to pass my finger into the cavity of the uterus. Strongly suspecting placenta prævia, the possibilities and probabilities of the case were frankly stated to the patient and family, and the former cheered up, and assured that I would safely take her through her peril. Deeming it my duty to remain for the present, I gave Mrs. B. a full dose of morphine combined with atropine, and lay down for a nap, leaving orders to be called immediately should flowing occur. In the morning I left her quietly sleeping. No hemorrhage during the night. Saw her at noon. Found her very comfortable, encouraged her, and promised to call the next day. Was summoned again the same evening at 10 o'clock. Hemorrhage quite brisk, pulse rapid, great restlessness, and other symptoms alarming. I decided to do my duty at once, namely, *empty the womb and save my patient's life.* One grain of morphine combined with one-fiftieth of a grain of atropine was now put under the skin; thirty grains bisulphate quinine administered in wafer paper; the urine drawn, and the following enema given: spts. turpentine, one ounce; castor oil, two ounces; yolks of two eggs; castile soap-suds, one quart, thoroughly mixed. After the enema had operated, the patient was placed upon her back in the usual position for instrumental delivery. One hand was passed into the vagina, the first finger of which was gently but firmly carried into the womb, dilating the os as I proceeded. My fears were now confirmed. I was dealing with a case of placenta prævia centralis. Continuing to dilate gently and rapidly until two fingers could be easily passed, I soon had the placenta separated from one side for quite a space, as far up as my fingers could reach. Taking a silver male catheter, No. 18 American scale, I now passed the curve into the uterus between the placenta and my fingers until it reached the tips of the latter. Then with a gentle rocking motion, it was carried still higher, separating the placenta as it advanced, until the upper margin of the same was passed and the membranes reached. These were now easily and thoroughly ruptured and the liquor amnii allowed to escape. Mrs. B. now received a copious douche of hot water, had her linen changed, and was placed in a clean, dry bed, in order to get a little rest before labor should commence, which I knew would not be long delayed. She went to sleep almost immediately, the pulse and respirations assuming a better character directly. After watching her for half an hour, during which time not one drop of blood escaped, I lay down;

to get a little rest myself. It was now midnight. I was awakened at 3.30 A.M. Pains commenced at 3. Child and placenta born almost simultaneously at 5. Child born alive, premature and feeble, and lived only a few hours. Mrs. B. received a good generous diet, with wine of coca ad libitum. She arose on the tenth day, feeling well but rather anæmic. With the exception of bisulphate quinine twice daily, she required no medicine.

After citing seven other cases, he concludes as follows: I will close this paper with the following remarks: As it seems to me, the first thing to work for, in treating placenta prævia by the above method, is to secure the entire confidence of both patient and family. Perform the operation without anæsthetics, if possible, for they both favor hemorrhage and take away from the pains that force which we are so anxious to secure. Have nothing whatever to do with ergot. It is worse than useless. We never can tell how it will act. It is liable to cause the os to contract and lock everything up, just when we want to keep it open so that we can empty the womb. Don't bother with the tampon. It cannot do any harm when introduced properly, but will do little or no good, and then again we are wasting precious time. What we want is no hemorrhage and good effective pains. Can we secure these? I answer emphatically and without hesitation, yes. Separate the placenta from one side as far as possible. If the os is not open, dilate. Rupture the membranes thoroughly. You have now fulfilled the first indication. Morphine and quinine in large doses have in my hands always fulfilled the second. A woman lies at death's door from ante-partum hemorrhage. There is nothing like a full dose of morphine to help her rally and get a fresh grip on life. Bedford says: "Be not afraid of this remedy; it is the sheet-anchor of hope in cases in which the patient is almost sinking from exhaustion consequent upon profuse hemorrhage." It is also oxytoxic. Narcotism is almost impossible. It is well enough to combine atropine, as has always been my custom. Experience has taught me that quinine in large doses *is the oxytoxic par excellence.* I have used it thus in a great many cases. In my hands it almost never fails to produce just such pains as are required. Then, again, it wards off chills, acts as a tonic, and prevents septicæmia.

INHALATIONS OF MURIATE OF COCAINE IN WHOOPING-COUGH (Dr. A. Y. P. Garnett, in the *Journal of the American Medical Association*).—In January last I had under my care two cases of pertussis, one a child of five and one of two years of age. The children were seen, one in the second and the other in the third week of the attack, both suffering with all the distressing phenomena incident to a full development of this disease. Many of the ordinary and some extraordinary remedies had been used without in any degree mitigating the severity of the paroxysms. Sympathizing with the unhappy mother, as well as the little sufferers, I resolved to employ, if possible, some hitherto untried agent that in my judgment might afford immediate relief. With this view I determined to try the use of hydrochlorate of cocaine by inhalation, and, in order to procure it in a form sufficiently volatile to be readily vaporized, selected chloroform as the solvent. A six per cent. solution of muriate of cocaine in chloroform was prepared, and ten minims poured in a wine glass made warm by tepid water was placed under the patient's mouth, whilst the mother was directed to keep the nostrils closed. No difficulty was experienced after a few trials in getting the patient to breathe in the vapor, which seemed to produce rather an agreeable effect than otherwise. This practice was repeated every four hours, and whenever it was possible to do so, immediately preceding or at the outset of a paroxysm of coughing, in the latter instances using double the dose of the solution. It was found that by this means many of the paroxysms were arrested entirely, or materially cut short, and, although the treatment seemed to fail in curing the disease or shortening the usual period occupied by its three stages, it certainly altered and mitigated the severity and distress of the paroxysms. The present epidemic of whooping-cough in Washington, which commenced in the month of June, has afforded me ample opportunity of multiplying my experiments with the use of the chloroform solution of cocaine, the result of which has confirmed the conclusions of its marked effect arrived at with my first two cases in January. Some difficulty is usually encountered in administering the remedy by this method with very young children, in which event the ten or twelve drops may be poured upon a handkerchief, which can be substituted for an inhaler, the latter instrument being easily managed by older children.

Whilst I am aware of the popular theory which attributes the origin of pertussis to the presence of specific micro-organisms or parasites, and recognize its power of self-propagation and contagious character, I am inclined to regard it as entirely a neurosis, tracing the initiatory morbid impression or manifestation to those nerves which are distributed to the laryngeal mucous surface, resulting at first in functional disturbance of the vaso-motor nerves, impaired innervation, and local irritation; that this condition, although resembling in its pathological and physical features ordinary catarrhal affections of this organ, is essentially different and due to some specific cause, is shown by the fact that ordinary laryngitis and bronchitis are never attended with the pathognomonic spasm of whooping-cough. The additional evidence of its nervous origin and complications, especially with the pneumogastric, may also be found in the distressing vomitings which accompany the paroxysms of coughing. The hyperæsthesia, hyperæmia, and turgescence of the mucous lining of the larynx and trachea, consecutive to and consequent upon the primary nervous disturbance in the second stage, are followed by a metamorphosis of cell products, copious secretions, and slight tissue changes. The bacteria, micrococci, and other micro-organisms found in these secretions, are in my opinion the *post hoc* innocuous products, and not the causative agents, of the disease. The " contagium vivum," or materies morbi, has not yet in my judgment been clearly demonstrated. The fact that infants have been born with whooping-cough contracted during fœtal life would seem to show that the cause producing this disease is not always extraneous. Taking into consideration the local manifestation of this disease with the morbid conditions which we find in the lining membrane of the upper air passages in connection with the known action of cocaine upon the terminal extremities of arteries and nervous filaments, we are forced to acknowledge that it possesses in an eminent degree the power to fulfil the indications presented in the treatment of whooping-cough.

CARLSBAD FROM A MEDICAL STANDPOINT (Dr. R. C. M. Page in the *New York Medical Record*).—Let us now look at some of the contra-indications of the Carlsbad cure. In cardiac diseases in general, for obvious reasons. In cases of gastric catarrh with dilated stomach, the more so if there be pyloric obstruction, since fermentation of gastric contents would still more dilate the stomach. In gastric catarrh and dyspepsias of the anæmic, which are attended by deficiency of acid in the gastric juice. Small children should not be taken to Carlsbad, as croup and diphtheria prevail there in winter, and sometimes attack the children of visitors in summer. Owing to the tissue-changing and more or less devitalizing effects of the cure in general, it is contra-indicated in the cases of patients having any disorganizing or wasting disease, as carcinoma, pulmonary consumption, or those who have inherited a strong predisposition to such diseases; debilitated, anæmic, and infirm persons in general, even women at the menopause; and, finally, Bright's disease of the kidneys. * * * In conclusion I would say: 1. There are patients affected with certain diseases who may be benefited, and even cured, by the Carlsbad course. 2. This benefit or cure should not be attributed to the drinking of the waters, the baths, or the hygiene alone, but to all of these factors combined. 3. If such patients would follow out the same hygienic rules at home, there would be no necessity of their going to Carlsbad, since the mineral waters and baths identical in effect may be obtained elsewhere. "Nor are there facts or reasonable grounds," says Leichtenstern, "for believing that a mineral water used systematically at home is less efficacious than at the spring under the eye of the bath physician." 4. There are patients who will not, do not, and cannot observe such hygienic rules, and must therefore be sent to Carlsbad or some other place, where the concurring incidents of a cure and the pressure of surrounding circumstances will be likely to cause them to do so. Moreover, the benefits or disadvantages of an ocean voyage are to be considered, and the preferences of patients, other things being equal. 5. There are patients affected with certain diseases for whom the cure would be dangerous, if not fatal.

POINT OF DIAGNOSIS OF ROTHELN.—Dr. Glover (*Lancet*) says he has noticed the earliest symptom to excite notice in cases of rotheln or German measles is a swollen gland in the neck at the back of the sterno-mastoid muscle. This symptom he has noticed four or five days before the rash appears. When disease is prevalent, or already exists in a family, and a swollen cervical gland in a young person appears, without obvious reason, it may be suspected that the system is already infected.

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MICROSCOPY AND PATHOLOGY.

CHEMICO-BIOLOGY OF MICRO-ORGANISMS AND PTOMAINES.

Professor Poehl, of St. Petersburgh, believing that ptomaines are usually due to the action of micro-organisms in decomposing the albuminoid constituents of the body, and knowing that they themselves are of the nature of reduction products, has made a number of observations on various micro-organisms for the purpose of determining their capacity for reduction, and thus estimating their power of producing ptomaines. The substance employed for the purpose of his investigations was Koch's nutritive gelatine, to which was added a minute quantity, 0.05 per cent., of perchloride of iron and ferro-cyanide of potassium, This admixture did not, he found, interfere at all with the development of the micro-organisms. The substance was placed in a test-tube with the usual precautions, and the inoculation made with a platinum needle thrust into it. In some of these cultures a distinct formation of prussian blue from the reduction due to the development of the micro-organisms was observed along the track of the needle within from twelve to twenty-four hours. In others the blue color was later in making its appearance, while in some no blue was visible, even after the whole of the mass had become liquefied. It was remarkable that generally the blue color was not formed in the track within from four to eight millimetres from the surface, thus showing that the oyxgen of the air is prejudicial to the reduction process. After the track of the needle had become colored, the blue appearance began gradually to spread around it in the substance of the gelatine, but even after a week an uncolored superficial layer was always present of from four to eight millimetres in thickness. The chemical formation of prussian blue requires the presence of a slightly acid condition, and as some of the micro-organisms refuse to develop except in a slightly alkaline medium, the difficulty had to be overcome by waiting until the development had taken place in the slightly alkaline gelatine, and then adding nitric acid, when, if reduction had taken place, prussian blue was formed. Comma bacilli, typhus bacilli, streptococci, many of the micro-organisms of the fæces and the sputa, and of those existing in the Neva and waterworks water, set up a considerable degree of reduction, while some, including bacillus subtilus, showed no signs of doing so even after a week had elapsed. In the case of cholera and other bacilli in alkaline media, Dr. Poehl observed that the addition of hydrochloric acid to the culture in process of development gave rise to a red pigment of the same tint as acetate of iron, in addition to the formation of prussian blue. A similar pigment was formed by itself in control experiments made with the same bacilli and nutrient gelatine containing no iron or ferrocyanide, and is probably, according to Dr. Poehl, identical with the scatol derivative found by Brieger in pathological urines. The bacilli of Prior and Finckler found in cholera nostras appear to require much less oxygen for development than the comma bacilli, which are in a high degree aerobic. It would seem that in true cholera oxidising medicines, as peroxide of hydrogen and peroxide of manganese enclosed in keratin, so as to act specially on the small intestine, might be expected to act both in destroying ptomaines and in preventing their formation. Dr. Poehl thinks that much practical information is to be obtained by chemico-biological investigations on comma bacilli and pathological micro-organisms generally.—*Lancet.*

DR. PAVY'S HARVEIAN ORATION ON THE RELATION OF BACTERIA TO DISEASE.—This year, Dr. Pavy, after the preliminary flourish which suffices to occupy the first half-hour, contented himself by giving a somewhat perfunctory sketch of the indebtedness of medicine to bacteriology, The subject just treated is worn rather threadbare. The day has passed when anything more than a languid interest can be felt in a discussion of the hypothesis of spontaneous generation, and of the many interesting questions now occupying the attention of bacteriologists; either the "Orator" had an imperfect conception of these points, or he feared to discuss any doctrines which lay under the disadvantage of being novel. It is a little surprising that Dr. Pavy, who has done excellent work as a chemist, should have failed to give prominence to the chemical problems involved by the phenomena of bacterial action. M. Pasteur's hypothesis as to the mode in which his successive inoculations operate to prevent the development of hydrophobia assumes the existence of a body of peculiar chemical constitution, which possesses the power of producing this change in the tissues of the organism. The hypothesis may be incorrect, but it at least shows the drift of opinion in the minds of those who have given most attention to the subject; moreover, it does not stand quite alone, for Dr. Salmon, of the United States Department of Agriculture, has apparently shown that animals may be protected by the successive injection of the fluids in which the micro-organism has grown, but in which it has ceased to exist. Moreover, Dr. Cash's most interesting experiments with perchloride of mercury would lead to the belief that the physician need not be quite so helpless before disease, even after it has entered the system, as Dr. Pavy assumes.—*British Medical Journal.*

ON THE CAUSATION AND NATURE OF HYPERTROPHY OF THE PROSTATE.

By Reginald Harrison, F.R.C.S.

In a previous paper* I have pointed out that residual urine will be frequently found to precede physical signs of prostatic enlargement, and that this inability to empty the bladder may be traced to structural alterations in shape and imperfect power of contractility which chiefly involve the most dependent portion of the bladder area—namely, the posterior wall. From these observations I deduce that the initial lesion in enlargement of the prostate is the conversion of the latter into a kind of muscular buttress for providing against a structural incapacity in a contiguous part. I have further laid stress on the view which has been advanced by competent observers that the prostate is to be regarded essentially as a muscle, and not as a gland, in the ordinary acceptation of the term. In endeavoring to explain how it is that the prostate muscle may be brought under the influence of the same laws which seem to regulate the development of hypertrophies in other parts of the body, and which for the most part are compensating in their nature, there are many points connected with its clinical history and pathology, when enlarged, which may with advantage be referred to here.

In the examination of the bladder, both after death and in the course of surgical operation, it is impossible not to be struck with the altered relations which frequently exist between the viscus itself and its neck or outlet. In early adult life the bladder may be regarded as an abdominal rather than a pelvic organ; as years advance it gradually sinks within the pelvis, whilst still later on it will often be found to have become further depressed within the pelvic cavity. In this way I have seen a prominence given to the floor of the prostate which was really due, not to the development of more prostate tissue, but to the bending back of the posterior wall of the bladder. When it is considered that the prostate is almost immovably fixed by ligament in its position, whilst the bladder can rise or fall according to circumstances, it is not difficult to understand how this can be, and how an obstacle may be put in the way of micturition which does not necessarily involve an increase in the amount of prostatic tissue. This mode of forming a prostatic bar may be very readily imitated. That an undue sinking of the bladder within the pelvis such as I have referred to would be likely to induce hypertrophy of the prostate as a compensating process seems to me to be not unreasonable. It is stated by Sir Henry Thompson "that actual hypertrophy of the prostate exists in about 34 per cent. of men at and above sixty years of age; that it produces manifest symptoms in about 15 or 16 per cent." From this it would appear that 18 per cent. are not injuriously affected by this change, a circumstance which almost seems to suggest that the majority of persons with large prostates are in some way or other benefited by them. These are illustrations where the compensation is precise. How frequently it happens in our daily practice that we come across instances of persons having very large prostates, but who are not conscious of suffering any inconvenience thereby. It is only very recently, when examining the rectum of a patient, I discovered that he had an enormous prostate, but beyond experiencing some degree of vesicle irritability a few years ago he had now nothing to complain of so far as micturition was concerned. A good idea of the amount of support that is afforded to the most dependent portion of the bladder by a large prostate may be formed by examining such a patient as I have just referred to with the finger in the rectum when he is placed in the erect position. By this means we can judge of the value—I was going to say the comfort—of a large prostate to some elderly males with incompetent bladders.

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* *The Lancet*, March 6, 1886.

But it may be urged that, though some cases of enlarged prostate appear capable of explanation on the ground that they are essentially hypertrophies in the usual acceptation of the term, there are others where such an explanation is not so apparent. In the latter category reference no doubt will be made to those instances where the prostatic mass is made up of more or less lobulated projections. These I would speak of as the upheavings of a frequently contracting muscular ring. In a muscle or part undergoing hypertrophic growth, and where the process is prompted by circumstances which are obviously liable to some degree of variation, tissue production may be excessive or become unnecessary. Such excess would naturally tend, under the contraction of the part, not only to protrude itself where the resistance was least, but to assume a more lowly organized form than that originally produced. In this way I believe these masses of more or less degenerated prostate tissue are formed, and just as there is a wide difference between the irritability of the bladder associated with the initial stage of the hypertrophying prostate and that caused by the fibrous projections of the gland just referred to, and which produce symptoms quite as irritating to the bladder as any stone, so is there a corresponding difference in the residual urine which accompanies each of these states.—*Lancet.*

INTRA-CRANIAL HEMORRHAGE.

The *Boston Medical & Surgical Journal* publishes a paper on this subject read before the Pathological Society of Philadelphia, by Dr. H. A. Formad, which is based upon an analysis of 143 cases occurring in medico-legal practice. He divides them into eight classes, and arrives at the following practical conclusions:—1. Hemorrhages exclusively above the pia mater and above the dura mater—that is, on the outside of the brain—are always due to ***traumatism*** or to ***sunstroke***, provided a cerebral source for hemorrhage be excluded, and the cerebral vessels and membranes be not diseased. 2. Hemorrhage in the floor of the fourth ventricle is always traumatic, provided there be no blood clots in the lateral ventricles or any other part of the cerebral substance. 3. Hemorrhage exclusively below the pia matter, or in any part of the brain substance, or in the ventricles (except the fourth), is always idiopathic—that is, due to disease. 5. There must be a diseased condition of the cerebral vessels or substance for hemorrhage to be a result of disease. There must be traumatism (a fall or violence) to account for a hemorrhage in a normal brain. 5. The blood clot in concussion of the brain is not found at the point of application of violence, but always somewhere about the opposite side of the brain, and always within the arachnoid—that is, between the pia and dura mater. 6. The blood clot in fracture of the skull is always found at the point of application of violence immediately below and always between the dura mater and the fractured part of the skull itself. 7. A blood clot found within the cranial vault is more favorable to the patient if due to fractured skuil than if due to a mere concussion. 8. Only clotted blood and infiltration of blood corpuscles into tissues indicate an ante-mortem hemorrhage. Liquid blood is due to post-mortem oozing, and stains, but does not infiltrate, tissues. 9. Severe bruises and cuts of the scalp may be seen in cases of idiopathic apoplexy, when a sudden cerebral hemorrhage causes a person to fall. 10. In some cases it is impossible to decide by medical examination alone as to whether a head injury and the resulting hemorrhage is due to a fall or violence. 11. External marks of violence may be invisible to the unaided eye in some cases of injury to the head or other parts, but are easily detected and distinguished from post-mortem spots by means of the microscope. 12. The bulk of an intra-cranial hemorrhage stands usually in inverse proportion to that of the external scalp hemorrhage.

PERLÈCHE: AN AFFECTION OF SCHOOL CHILDREN.

An affection which is common among school children in parts of France, and which is known by the names of *perlèche* and *bridou*, has recently been investigated by Dr. Justin Lemaistre, professor of the Limoges School of Medicine, and found to be of parasitic origin. The parts affected are the angles of the mouth and the skin immediately adjacent to them. The epithelium first becomes whitish, sodden, and easily detached; the skin then becomes involved, but as a rule only the superficial layers of the epidermis peel off, the corium not being quite denuded. Sometimes small fissures make their appearance, radiating from the angle of the mouth, which occasion some pain and bleed slightly when the mouth is widely opened. The appearance is not unlike that of the mucus patches and rhagades seen in the same situation in syphilitic children. The average duration of the affection is not more than a fortnight, but children are often affected several times a year, so that no protection is afforded against subsequent attacks. Of course it is only of a slight nature at any time. M. Lemaistre finds that it is contracted through the vessels from which the children drink. He examined the epithelium and found a new microbe belonging to the sphero-bacteria or cocci of the Schizomycetes group. Cultivations in bouillon produced a mass which gave the appearance of an immense number of chains intertwined; consequently M. Lemaistre proposes the name Streptococcus plicatilis! He succeeded also in cultivating the same from the water of a fountain. The wooden drinking bowl in use amongst the poor plays, he thinks, an important part in the etiology of the disease. He explains the situation of the affection by supposing that the Streptococcus plicatilis is anærobic, and that it finds in the commissures of the lips suitable moisture and sufficient protection. Fortunately it does not multiply very rapidly, and consequently the affection it produces is not of a serious nature. Of the 5,500 children in the thirty-two primary schools in Limoges, 312, or one in every 17, are affected with perlèche. The best treatment is by means of copper and alum applications, boracic acid appearing not to be efficacious. The prophylaxis consists in cleaning the drinking vessels and fountains. Though no attempts at inoculation seem to have been made, the researches of M. Lemaistre leave but little doubt of the parasitic nature of this essentially school affection, which very probably is common enough, and may usefully be looked for by rural practitioners in this country as well as in France.—*Lancet.*

A CASE ILLUSTRATING THE VALUE OF THE TUBERCLE BACILLUS AS AN AID TO AN EARLY DIAGNOSIS IN PHTHISIS. By E. L. Trudeau, M.D., Saranac Lake, N. Y.

The following case, occurring under my observation, has seemed to illustrate some points of interest bearing on the infectiousness of phthisis and the value of the tubercle bacillus as a help to an early diagnosis:

Miss N. W., aged twenty-four, American, family history good, came in the fall of 1885 as child's nurse to a lady, then under my care, who was suffering from advanced pulmonary phthisis with progressing excavation. Miss N. had an excellent family history and had always been well herself; she was constantly in the sick-room and in daily attendance on the invalid. Five months later, in March, 1886, I was asked to see her, as she had taken cold, and found her suffering from the usual symptoms of a moderate bronchitis. Two weeks ago, being informed that she was still coughing, I examined her more carefully; her temperature was 100.75°, pulse 90, skin moist, and tongue clean. In the chest nothing beyond marked feebleness of vesicular murmur at left apex and some scattered coarse râles in both lungs was observed. As I was then making sputum examinations, it occurred to me to obtain a sample of the expectoration for study. To my astonishment, a few tubercle bacilli were detected, and subsequent examination showed them in great numbers. A diagnosis of phthisis with its accompanying unfavorable prognosis was given, and, as the family was on the eve of departure, the case was lost sight of for the time. In August, 1886, five months later, an application for admittance at the Saranac Lake Sanitarium was made for Miss N. W., the physical signs as given by the attending physician being as follows: " Whole upper portion of left lung hepatized with moist sounds; right lung beginning to be involved; emaciation, fever, sweats, and purulent sputa present." When heard from again in September she was failing rapidly and unable to be moved.

Deficient as any evidence of direct contagion in phthisis must always be, it must be conceded that many facts in the foregoing case seem to point to more than mere coincidence. The girl had always been healthy, there was no phthisis in her family, she was in a good climate and under excellent hygienic conditions when after less than five months of exposure the first symptoms of the phthisical process made their appearance and progressed uninterruptedly. I am not aware of any other case where the presence of the bacillus has been demonstrated so early in the disease. The cough came on quite suddenly and had only lasted a little less than three weeks, and there was nothing sufficiently marked in the physical signs to admit of a positive diagnosis of phthisis when the bacilli were detected, their recognition at once entirely changing the diagnosis and prognosis in the case.—*N. Y. Med. Journal.*

SANITARY.

SANITATION IN STREET-PAVING (Dr. George Baird, M.D., Wheeling, W. Va., in *The Sanitarian*).—The macadam, with its rapidly worn surface and its clouds of dust, carrying disease germs in them; the cobble pavement, with its noise and innumerable pockets, furnishing lodging-places for decaying animal and vegetable matter; the wooden pavement, decaying in a few years and absorbing urine of horses and foul liquids of all kinds, which were poured on its surface, and the granite, with its noise far exceeding the cobble, its slippery surface when worn, and its open crevices between the blocks, permitting liquids of all kinds to pass down and pollute the street surface beneath, are each and all subject to adverse criticism. If these statements are true, the question naturally suggests itself: Is there any material known suitable for street-paving free from such objections and at the same time of such cost as to be within the reach of the great majority of cities and towns desiring to have paved streets?

It is claimed by our people that there is a material which fulfils these requirements, and that Wheeling is the city to first introduce it. The material is the vitrified paving block manufactured by John Porter, of New Cumberland, W. Va. This block is an oblong truncated wedge 9 inches long, 4 3-4 inches wide, 3 1-10 inches on one edge and 2 12-16 inches on the other. It is composed of fire-clay, iron ore, and silica, fused to a homogeneous mass. When the surface of the street is properly graded and rolled the blocks are laid in three or more inches of sand, the broad and narrow edges turned upward in alternate rows, and the joints broken, as in first-class brickwork. The spaces between the blocks are brushed full of finely screened gravel and paving cement poured on this until they are made completely water-tight. Over the surface of the pavement pitch is poured, and a layer of sand one-half inch thick is spread. The roller is then passed back and forth over the pavement until all the blocks are firmly settled in their places, and the entire surface forms a continuous uniform plane.

The advantages of this pavement are the antiseptic properties of the pitch on its surface and between the blocks, thus providing a water-tight cover for the surface of the street, preventing the passage of foul liquids to the street beneath, and also furnishing the great desideratum for a good street—to wit, a dry foundation, the absence of depressions in which animal and vegetable matters can lodge and decompose, the ease and economy in cleansing it, its not absorbing urine of horses or any foul liquids, its freedom from noise, and its not being affected by frost or heat. It also offers less resistance to the passage of heavily loaded vehicles than any other street surface except asphalt, and it has an advantage over it in its not being slippery in any weather or on any grade. The combination of pitch and sand affords a sure footing for horses at all times. The life of the pavement is without limit. A renewal of the surface coating of pitch and sand when worn off at a cost of one cent per square yard will prevent all wear of the block. The cost of this pavement is not more than cobble, much less than wood, less than one-half that of asphalt, and not one-third that of granite.

THE AVERAGE WELL-WATER.—It is a common belief that when a well is dug, pure spring water, oozing from the ground, is obtained; that is true in the case of artesian wells, but, although possible, is rarely the case in ordinary surface wells, and under this name are embraced all wells not more than fifty feet deep. The water obtained from these wells is merely the water which has fallen on the surface of the ground in rains, and has percolated the soil and becomes collected in this excavation. It is called ground-water. Even granting that some of the water may be spring water, some of it must be the result of drainage, and the amount of this will depend upon the rain-fall and the character of the soil. A moment's reflection will show that wells must act as drains to the surrounding soil. Just as a wet field may be dried by digging one or more trenches, into which the soil may drain and be carried away, so when a deep trench or well is dug the water from the surrounding soil will necessarily tend to drain into it. This is not only a matter of reasoning but a matter of experience. The following case is reported: "In consequence of the escape of the contents of a barrel of petroleum or benzine, which had been buried in an orchard, a circuit of wells 60 feet below and 250 or 300 yards distant became so affected that the occupiers of fifteen houses, containing eighty-two inhabitants, were for ten days unable to use the water for cooking or drinking." When wells are first dug in rural districts, the water is pure and may remain so for a long time. Fortunately the soil possesses some power of purification, and although the water may receive polluting matter on the surface of the ground, some of this matter is detained mechanically by filtration, and other portions may be decomposed and taken up by growing plants and trees. But this power of the soil is limited. When the sources of pollution are constant and numerous, as in cities, from privies, cess-pools, slop-water, offal and the manure of domestic animals, and sometimes from leaky and imperfect sewers and drains, the soil becomes "filth sodden," and the filth is carried deeper and deeper, until finally it appears in our drinking water. Sanitary literature is full of instances of the outbreaks of epidemics of diarrhœas, typhoid fever and cholera, which have been traced to the drinking of well-water thus polluted; and even though the city may go through one or more years without such epidemics, it is not a pleasant thought for the inhabitants to indulge in; that they are drinking the drainage of their privies and cess-pools, and yet they must realize the idea that their wells are and must be drains for the surrounding grounds with all its contents that are capable of solution in water. Science cannot tell us that a given water is charged with the poison of a definite disease, but it can tell us that it has received the products of decaying matter from animal sources, and experience has shown, again and again, that such water is dangerous to health.—*Dr. E. J. Marsh in the Sanitary Monitor.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches
1 decametre	"	10	metres
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water.
1 centrilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl drachm water at 60 deg. F.		56 96-100ths grains.
1 fl oz. " "		455 69-100ths "
1 fl gallon " "		231 cubic inches.
1 fl pint " "		28 87-100 "

TEMPERATURES.

Centigrade.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

Reaumur.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

The Value of Arsenic in Diseases of the Skin.—As a result of clinical experience, fortified as it is by experimental proof, every dermatologist will readily admit that the internal use of arsenic will cause the disappearance of certain chronic inflammatory disorders of the skin, such as psoriasis, lichen planus, perhaps pemphigus, and probably a few others. After admitting so much, the question comes up: Are these results invariable; and if they are, are there no other plans of treatment that are quicker and better? Speaking from my own experience, I must say at once that arsenic often completely fails in the very diseases in which *à priori* we should expect the best results. In an excellent paper on the "Limitations of Internal Therapeutics in Skin Diseases,"*

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* *Archives of Dermatology*, April, 1882.

Dr. J. C. White uses the following language in regard to arsenic: "There is scarcely any affection in which it is not given by the profession with routine constancy. Its powers, however, are, unfortunately, very limited. For outside of this group (inflammations) it may be said to be powerless, while within it its action is positively injurious in the most inflammatory states of the skin, and of real service only in a very small proportion of the affections included in it. When I mention psoriasis, chronic eczema, lichen ruber, and pemphigus, I have named all of them in which we can confidently rely on it in any great measure. Even in these we know how often it utterly fails to accomplish what we expect of it, and how impossible it is to predict in any individual case, however favorable apparently, the measure or rapidity of its success. Upon the permanency of its influence in the recurrent forms of these diseases we cannot depend."

Mr. Jonathan Hutchinson vaunts arsenic as a specific in pemphigus, but neither Hebra nor Tilbury Fox found it to be such. The latter expressly declares that "there is no specific for pemphigus. Arsenic is declared to be one, but it often signally fails to cure the disease, and I have seen quinine in full doses do much more good." Such has been my own observation, and in a case of pemphigus foliaceous under my care everything failed to benefit the patient. I may also say in this place that I have never seen the slightest good come from the use of arsenic in eczema or acne, except when the indications for its use were found elsewhere than in the skin, and then only in a limited number of cases. Indeed, nearly all the chronic cases that come under my care have already taken the drug for long periods and in various doses. Acting upon a suggestion of Piffard's, I think, to the effect that a minute dose might accomplish what a large dose failed to secure, I have given arsenic in infinitesimal quantities in acute affections, but, I am sorry to relate, also without effect.

Admitting, however, that arsenic, even when given by itself, is capable of removing certain chronic inflammatory skin diseases—and this I have already acknowledged to be the case—I must still repeat my former question, viz.: Are there no other plans of treatment that are quicker and better? I must emphatically answer in the affirmative. While I know that arsenic will very often cause the disappearance of a psoriasis, I place infinitely more reliance on the local treatment, and if I were restricted to the one or the other, I should elect to use the latter. By the employment of local measures in psoriasis—*e. g.*, chrysarobin—the mode of action is about the same as comes from the internal administration of arsenic, with this advantage, that it is quicker and more direct; and I am confident, from much experience in the matter, that relapses are not more frequent under one régime than under the other. I am aware that arsenic has been looked upon as a sovereign remedy in lichen planus, and especially good results are said to have been obtained by its hypodermic administration (Koebner); but here also it has been known to fail, and lately Unna has claimed much more rapid relief from purely local measures.

As regards the curative influence of arsenic on the malignant affections of the skin, it is a matter of medical history that the drug has been given in cancer, real or supposed, from the date of its first introduction into therapeutics; but I doubt very much if any modern surgeon would pin his faith to it. Not a great while ago the profession was surprised and delighted with the report of Prof. Koebner's cure of a case of sarcoma cutis by the subcutaneous injection of arsenic, and while there is no sort of dispute as to the correctness of the diagnosis, or as to the results obtained, the query arises: Will such a happy issue be invariable? Unfortunately, in my own practice two cases of sarcoma of the skin treated by arsenic—one only by the hypodermic method—were examples of conspicuous failure. Nevertheless, I should try it again, if the opportunity offered.—Dr. W. A. HARDAWAY, in the *Journal of Cutaneous and Venereal Diseases.*

LACTOPEPTINE IN A CASE OF CONGENITAL HEREDITARY ATONIC DYSPEPSIA.—Dr. R. Walker Beers, Angola, La., writes in the *Medical Brief:* —During a practice of twenty years, I have prescribed lactopeptine to patients of all ages, and have never been disappointed in its action when indicated. But I desire to speak in particular of its action in a case of congenital hereditary atonic dyspepsia: in an infant, to whom I began to administer this remedy on the third day after birth. Mrs. H. L. S., Langside, Miss., was delivered of a male child in whom there were manifested well-marked symptoms of atonic dyspepsia. The mother had been a victim of dyspepsia from girlhood, and had inherited the malady from her mother.

The infant was put to the breast a few hours after birth, and nursed readily; but almost immediately rejected the milk. Repeated trials all resulted in vomiting followed by exhaustion. Other articles of food were tried, including cow's milk, etc., without improvement. The child was in great danger of starvation. On the third day, I began the administration of lactopeptine. The effect was immediate and almost miraculous. I ordered one-sixteenth of the adult dose to be dissolved in about two ounces of breast milk (drawn from a robust, healthy wet-nurse) and administered every two and a half hours. There was no more rejection of milk—except the usual vomiting of curdled milk, to relieve the crowded state of the stomach, which occurred occasionally, after the first ten days. Condensed milk, cow's milk (properly diluted and sweetened), Mellin's food, boiled bread (pap), were, after a while, substituted for breast milk, but always with lactopeptine. A steady improvement was manifest from the beginning, and kept up during the first dentition. which process was gone through with in a most satisfactory manner. No untoward diarrhœa or intestinal disturbance characterized this period, and, at ten months, the child was virtually cured of its dyspepsia, and could eat and digest ordinary food such as children of that age my do in good health. The parents of the child believe firmly (as I do) that lactopeptine saved their infant.

In cholera infantum, in diarrhœa, and in all of the disturbances of the alimentary canal, during dentition and early infant life, I find lactopeptine an ever-effective and reliable remedy. In adult dyspepsia, all are now familiar with its beneficial effects; but I should be glad if the profession would be induced to try it in the vomitings, diarrhœas, and dyspepsias of infancy. I recall several babies whose lives I believe I could have saved, had I known, ten years ago, what I do now of the ready adaptability of lactopeptine to infants' ailments.

ACORN COCOA.—Dr. C. Hasenclever, Assistant-Physician to the Augusta Hospital in Berlin, has published in the *Deut. Med. Wochenschrift* an interesting report on the successful treatment of the chronic diarrhœa of children by a new preparation of cocoa, consisting essentially of pure cocoa deprived of a large part of its fatty matter, and combined with *a soluble extract of roasted acorns free from cellulose;* a slight addition of roasted flour and of sugar is made to the cocoa in preparing the cocoa-powder, in order to ensure the necessary conditions of a perfect beverage. It was employed for several months in a long series of cases (97 in number), being those of di[illegible] combined with vomiting. The children varied in age [illegible] ars. They were, for the *most part*, in a miser[illegible] Seventeen cases were complicated with rachitis, and others of the children were suffering from chronic chest affections. Many of the children had been fed upon milk, and a great variety of infant foods, and the results reported are in the highest degree successful, the improvement being, in most instances, very quickly perceptible, and most of the children being cured within eight days. In order to make the observations conclusive, no other food or medicine was allowed during the time of treatment than this, the acorn-cocoa, that is, cocoa prepared, as stated, with soluble extract of acorn. It was given either by the bottle or spoon. The formula for the preparation of the cocoa was furnished by Professor Oscar Liebreich and Dr. Michaelis.

This acorn-cocoa has a pleasant flavor, like that of chocolate; and the preparation was readily taken from the commencement, and continuously for any length of time, this being probably due to the slight astringent flavor of the cocoa. Of chocolate or cocoa alone children will sometimes tire; but it was stated that the cocoa prepared in this way never palled upon the palate; and it is pointed out that tea and coffee, which are the only other beverages of which no one seems to tire, contain, in addition to the same alkaloid as that which is found in cocoa, a slight astringent, which the soluble acorn-extract furnishes. The great nutritive value of the cocoa, compared with tea and coffee, gives it obvious advantages.

Several adult cases of diarrhœa and chronic gastric catarrh were similarly treated with great success by the acorn-cocoa. Dr. Hasenclever observes that it has not yet been ascertained whether the valuable properties of this cocoa are due solely to its astringent influence or to its anti-fermentative character; but the careful observations made leave no doubt that the acorn-cocoa completely answers its purpose both as a remedy and as a food in the treatment of chronic diarrhœa, and especially that of infants. Dr. von Hossling reports, in the *Münchener Medicinische Wochenschrift*, a trial, in twenty-nine cases in the out-patient department of the Children's Hospital at Munich, of the same food, and with equally good effects. It seemed to have a remarkably good result in rapidly improving the condition of the children and their state of nutrition, and also in arresting the diarrhœa of phthisical patients. As a suitable food for children having a tendency to chronic diarrhœa, it is a great desideratum; and the result of these successful observations in Munich and Berlin has been to bring this acorn-cocoa into extensive use in Germany, both as a beverage for children and for adults. Our own experience is very favorable to it The name, perhaps, is not altogether well chosen, since the beverage is essentially cocoa, with the addition only of a given quantity of the soluble extract of acorns. It promises to be a valuable addition to the range of dietetic articles, useful both in daily life and for the specific purposes indicated—*Brit. Med. Jour.*

THE THERAPEUTIC ACTION OF THE OIL OF TURPENTINE IN THE MORE PAINFUL AFFECTIONS OF THE DIGESTIVE ORGANS OF INFANTS AND YOUNG CHILDREN. By Bedford Brown, M. D., Alexandria, Va.

In the therapeutic management of the more painful and grave affections of the alimentary canal of infants, and in those of a harmless character attended with suffering, I have for some years past been testing the virtues of the oil of turpentine as a curative agent. The use of the turpentine in this class of affections has given me much satisfaction.

The diseases of the digestive organs of infants, we are all aware, are among the most intractable and fatal which come under our observation and treatment.

If by any agency these painful and destructive diseases, which cause so much suffering to these helpless little creatures, and anxiety to relations, can be relieved or mitigated, I believe the profession is entitled to a knowledge of it. While I appreciate the fact that the therapeutic properties and application of this well-known remedy to the treatment of certain adult affections are clearly comprehended by the profession, I am equally aware that its value as a remedial agent in a large class of diseases of the mucous surface of the alimentary canal of early life is probably not understood. Who in our profession does not witness annual visitations, during every hot season, of those inflammatory affections, often epidemically, a large proportion of which prove fatal regardless of the use of opiates, astringents, alkalies, mercury, and bismuth? In my own experience the oil of turpentine often fills a place here which no other remedy does. The therapeutic action of the turpentine on the diseased mucous membrane of the intestinal canal is of a multiform character. It is eminently soothing to the irritated and inflamed membrane, and seems to promptly arrest that rapid exfoliation of epithelium which, during the inflammatory process, is progressing at an unusual rate of rapidity. If it be really true that this agent is capable of correcting this sloughing process in intestinal inflammation, it is an important point gained in the therapeusis of this class of diseases. I think that experience will fully sustain the opinion that the agent is really reparative in its action.

The action of turpentine on the tongue is doubtless largely typical of that on the mucous surface of the digestive organs. On the *dry, cracked, red, contracted* and imperfectly nourished tongue of fevers the direct effect of the agent is to increase and regulate the circulation of the organ, to re-establish the secretions and restore nervous function, so that in place of the former condition the organ becomes moist and pliable, assuming its natural complexion and softness. We have reason to believe that in that numerous class of diseases of the digestive tube of an inflammatory character, accompanied with fever, the condition of the tongue actually in part represents the state of the mucous membrane of the gastro-intestinal canal, and the action of the turpentine on the one indicates to a certain extent its remedial influence on the other. The oil of turpentine, in common with the other essential properties and products of wood tar, is manifestly antifermentative, antiputrefactive, deodorant, and antiseptic. In this respect, apart from its peculiar powers in healing inflammation of mucous membrane, it becomes an important agent in correcting fermentative and putrefactive action in the contents of the intestinal canal, which plays so conspicuous a part in the causation of disease in infantile life. The action of turpentine on the circulation, and indeed on the process of blood formation, is positively of a restorative character. This peculiar therapeutic property is clearly demonstrated through the remarkable influence of the remedy in restoring the circulation in purpura simplex and purpura hæmorrhagia, and in correcting the tendency to those affections. In both of these diseases there are certainly blood stasis and blood depreciation. This fact, which has been repeatedly demonstrated in the practice of myself and others, indicates the decided influence of the agent over certain abnormal irregularities of the capillary circulation, and at once directs our attention to its adaptability in relieving engorgements and healing inflammations of the mucous membranes. Its remarkable influence also in arresting hemorrhage of the stomach and intestines constitutes another evidence of decided action in regulating the circulation of those membranes. Whether this hæmostatic power is due to some astringency or to some peculiar influence on the vital conditions of the blood, as in the case of purpura, is difficult to decide.

The action of the drug in these diseases of the mucous membranes is not confined to its influence over the capillary circulation, but extends to the organic system of nerves and the secretions. In other words, it exerts a positive influence on the vital operations of the epithelial cell itself. When the digestive juices of the salivary gland, the stomach, pancreas, and intestines are imperfectly secreted, as they too often are, all food, instead of being digested, being exposed to a temperature of 100°, is at once subjected to the laws of chemistry and, undergoing rapid fermentation and putrefaction, gives rise to various deleterious products of an acrid and gaseous nature, which produce an endless train of morbid actions in the alimentary canal of the infant.

I am fully impressed with the belief that the oil of turpentine acts as a stimulant to the salivary, stomachic, pancreatic, and intestinal secretions, and in this way becomes a promoter of the digestive operations. In that condition of the system indicated by a dry, red, glazed, or brown tongue, we may rest assured that the processes of digestion and assimilation are well-nigh suspended for the want of the appropriate secretions. If the turpentine can restore the secretions of the mouth and restore the tongue to its normal state, the digestive process has already received an important impetus. There is probably no stage of human existence more subject to those painful, protracted, and deleterious sequences of indigestion from defective secretions of the digestive fluids than that of infancy.

The dry, inflamed, and aphthous mouth of the infant suffering from chronic mucous disease, when all healthy secretion is in great part suspended, calls imperatively for the use of some agent which has the power to restore these absolutely necessary factors of digestion. The almost invariable improvement which follows the use of the turpentine in the digestion of infants suffering from intestinal and gastric affections leads to the rational conclusion that it exerts a general influence in promoting the flow of the various juices concerned in the act of digestion. Under the use of this agent the process of digestion is certainly facilitated, becoming more easy, comfortable, and more free of pain, while the abnormal products arising from indigestion are decidedly diminished, if not entirely prevented.

Mention has been made of the antifermentative and antiputrefactive, as well as the antiseptic properties of turpentine. The presence of these properties is clearly indicated in its decided agency in preventing and arresting the evolution of offensive intestinal gases and tympanites. Probably in our study and treatment of the intestinal diseases of infants we have not heretofore attached sufficient importance to those septic influences arising from the acts of fermentation and putrefaction in the contents of the canal. In such cases we are too prone to trust alone to the agency of opiates, alkalies, and astringents. Fermentative action and its peculiar products in the contents of the digestive organs of the ill-fed, ill-nourished infant suffering from dyspepsia is the bane of infantile existence. The products consist of the various acrid and irritating animal and vegetable acids, as the lactic, butyric, and acetic.

The gases evolved from fermentation and putrefaction are the carbonic acid, carburetted and sulphuretted hydrogen, and the ammoniacal. The hourly contact of these deleterious and poisonous agents with the imperfectly developed epithelial coats of the infantile digestive organs must prove destructive of its organization and cause erosion, with its extensive morbid consequences.

Following these general remarks on the use of the oil of turpentine in the intestinal affections of infancy, it is proper to state in detail the special diseases to which it is applicable.

Gastralgia.—All infants are liable to transient attacks of painful colic, arising from temporary distension from accumulation of gas in the stomach, or from the presence of acids. But artificially fed infants more particularly are occasionally subject to a violent, protracted; and intensely painful form of gastralgia in which appetite and digestion are suspended, accompanied with rapid reduction of flesh and strength, sufficiently to endanger life. Vomiting may or may not be present. There may be slight diarrhœa or constipation. The affection is invariably attended with wasting of the tissues and suspension of development, anxious and contracted facies, but no fever except in advanced stages, when gastritis or duodenitis may be developed. Pain is the great and absorbing feature of the disease, which is an ever-ending source of suffering to the little patient, and a source of perplexity to friends.

The disease may appear at a very early age. It does not appear to be associated with any organic lesion. It does not partake of the intermittent character of ordinary colic. But the pain is almost constant and unceasing, without relief from opiates. The abdominal walls are usually retracted. The shrill penetrating cry of these little sufferers may often be heard, to the dismay and distress of all, pervading the entire house, day and night, except when under the influence of opium. On one occasion a feeble, emaciated little infant was brought to my office, suffering with this affection, for treatment. Such were the shrill and distressing screams of the little creature, the wasted and piteous expression, that all transient callers were compelled to leave the room. The mother was robust, and apparently in a vigorous state of health, and afforded an abundant supply of nourishment.

I think in this case the child was suffering from an aggravated form of acidulous dyspepsia, with simple irritation of the gastric and duodenal mucous membranes. In two or three months this wretched little sufferer, under the turpentine treatment, combined with a few simple anodyne and alkaline remedies, was converted into a rosy, fat, merry, healthy infant. I have found the following formula a useful remedy in this class of cases :

℞	Mucilag. acac., - - - - - - -	f℥iss	
	Sodæ bicarb., - - - - - - -	xgrs	
	Chloroformi, - - - - - - -	xgtt	
	Ol. terebinth., - - - - - - -	ʒss	M.

Sig.—A teaspoonful every two or three hours to an infant of six months.

Intestinal Catarrh of Infancy.—Catarrhal inflammation of the lower ileum, cæcum, and colon, is well known to be one of the most frequent and fatal diseases of infants during our hot seasons. The inveterate dyspepsia of the artificially fed infant, subsisting on cow's milk, arrow root, and other farinaceous food during dentition, united with the depressing influence of heat, constitute the most fruitful source of intestinal catarrh. The enormous amounts of lactic, butyric, and acetic acids generated in the stomach and intestines of those dyspeptic infants subsisting on these particular articles of diet act as corrosives and destructive agents on the delicate epithelium. Thus a constant process is going on in those cases of exfoliation of epithelium and erosion of the submucous coats of the large intestine. The succeeding steps are engorgement, inflammation, ulceration, and softening.

Only about one-fourth of the entire number of artificially fed infants digest cow's milk perfectly. The remainder either digest it indifferently, or not at all. They (the latter) must pass through the lactic acid stage, with its attendant dyspepsia, pain, discomfort, more or less protracted intestinal catarrh, with its peculiar type of low fever, which resembles in many respects, in a striking manner, typhoid fever. The mouth and tongue are dry, red, and aphthous. The skin is dry, parched, and shrivelled. The pulse is quick and the temperature high at night. The abdomen is usually distended and tender on pressure. The intestinal discharges are muco-sanguinous and often frequent. The emaciation is always great. This, which is in ordinary termed the chronic diarrhœa of infancy, with its attendant pain, low fever, and emaciation, is a scene so often witnessed that we are prone to take a superficial view of these cases without penetrating further into the true pathological principles involved. I believe that genuine typhoid is not a more perfect example of septic fever than the form under consideration. Not only the intestinal contents, while in a state of fermentation and putrefaction, afford septic material for absorption, but the débris of broken down and sloughing tissue from softening and ulceration furnish also materials for infecting the blood and the production of true septicæmia. Hence in these cases we have to deal with a disease far more complicated than a simple diarrhœa. We have here an example of a local lesion and septic fever united.

The excess of lactic acid is also responsible for the presence in these cases of that inveterate form of intertrigo which aids in impairing the general health. The acid here acts as a destructive agent on the delicate cuticle, leaving the cutis exposed and inflamed. In other words, the cuticle is destroyed by contact with the corrosive acids in identically the same manner that the epithelial coat of the intestine is from the same causes.

Infantile life is the acid stage of human existence, as old age constitutes the alkaline period. In infancy we are called upon to contend with the effects of acid development and action, while in old age the enemy that besets its course is of an alkaline character, in the form of ammonia. To repair the damages resulting from catarrhal inflammation of the intestines, restore lost epithelium, re-establish suspended secretion, heal erosion of mucous membrane, the turpentine performs a good part.

Dysentery of Infancy.—In the primary stages of acute dysentery, when the symptoms are violent and accompanied with much fever, tenesmus, and pain, the acute features may be much modified by the use of minute doses of mercury (mild chloride), ipecac, and bicarbonate of soda, followed by the tartrate of soda and potash in sufficient quantity to clear the intestinal tract effectually. This procedure relieves the intense engorgement of the mucous membrane of the large intestines promptly before disorganization begins, and diminishes inflammatory action, and improves the state of the secretions. The powers of digestion and the febrile conditions are also benefited by the proceeding, The following formula may then be resorted to with infinite benefit:

℞.	Mucilag.acac., - - - - - -	f℥i	
	Ol. terebinth, - - - - - - -	fʒss	
	Ol. resini, - - - - - - -	fʒss	
	Aq. menth. pip., - - - - - -	fʒiij	M.

Sig.—A teaspoonful to a child of six months every 3 hours.

In connection with this treatment, anodyne enemata, composed of tinct. opium and mucilage, should be resorted to, to allay pain and procure sleep. In the advanced stages of this affection, when the fever assumes a depressed type, the general system begins to suffer seriously from emaciation and constant fever, when the tongue becomes red and dry, indicating great general prostration and a tendency to disorganization of the mucous membrane involved in the inflammation, in my experience turpentine is among the best agents for arresting this state of affairs and turning the tide in the direction of health and of re-establishing a reparative process.

In some cases in the stages of disorganization I have combined the oil of turpentine with the oil of yellow sandal-wood with positive benefit. It may be found also advantageous to combine the turpentine with other agents of an anodyne, alkaline, astringent, or antiseptic character.

The local anæsthetic or anodyne influence of the oil of turpentine on the gastro-intestinal mucous membrane is very considerable, which adds greatly to its value as a remedial agent in the treatment of this class of affections.

Enteritis of Infancy.—While simple, uncomplicated enteritis is not a frequent disease of infancy, yet it occurs occasionally, and is always of serious import at this tender age. Enteritis is manifested by the presence of slight fever, moderate diarrhœa, prostration, and paroxysms of violent spasmodic, nauseating, and depressing pains in the abdomen, occurring particularly one or two hours after taking nourishment. During these attacks the pulse becomes frequent and feeble, the surface and extremities cold and often livid. Relief only comes after the passage of the contents of the intestines through the diseased duodenum, jejunum, and ileum. The severe paroxysms of pain do not occur usually until the contents of the stomach have escaped from the organ into the small intestines.

Enteritis is invariably accompanied with loss of appetite and impaired digestion. Nausea and vomiting in a more or less degree are usually present. Consequently the tendency to emaciation and reduction of strength are marked. In the treatment of this affection I have found the following formula more useful than any other:

℞	Mucilag. acac.	f℥i	
	Aq. menth pip.	ʒss	
	Ol. terebinth	gttxii	
	Tinct. belladon	gttx	
	Aq. calcis	f℥iss	
	Tinct. opii. deod	gttx	M.

Sig.—A teaspoonful for an infant one year old every three or four hours.

As an adjuvant to the turpentine treatment in the painful affections of the intestines and stomach of infants, the belladonna has given me much satisfaction, and more particularly when the discharges are frequent.

Unclassified Painful Functional Affections of the Stomach and Intestines of Infants.—Infants which subsist on cow's milk and vegetable food principally are liable to frequent attacks of pain and discomfort from irritations of the alimentary canal arising from imperfect, slow, and tedious digestion, which may interfere seriously with the health and growth of the subject. These attacks may be purely of a functional character, or partake of a mild catarrhal nature, with slight fever. The intestinal discharges in these cases usually present an unhealthy appearance and are often extremely offensive, indicating a state of fermentation and putrefaction. The stimulant and carminative virtues of the turpentine, united with its antiseptic and anodyne properties, render the remedy peculiarly appropriate to this class of cases, particularly when combined with lime water and minute doses of carbolic acid.

In the class of cases treated of in this paper the oil of turpentine, as a remedial agent, is not presented as a ***sine qua non***, but as a valuable agent to fill a place, and as an effective means of co-operating with other treatment for the relief of the many aggravated, painful, and difficult affections of the gastro-intestinal canal of infants.—*Journal of the American Medical Association.*

INTERNAL AND LOCAL MEDICATION IN THE TREATMENT OF HERPES ZOSTER.—During the past year and a half there have come to my notice, at various stages of the disease, a number of cases of herpes zoster, and as the following method of treatment has given very gratifying results, it occurred to me that it might be of interest to your readers. The treatment consists briefly in the administration of a blue pill (two or three grains) twice or three times during the day, and the local application of zinc ointment carbolized (two per cent.), the parts being also protected from irritation of the clothes and other external influences. In every case so treated the pain ceased and the eruption was controlled in the course of a day or two, or after the purgative effects of the drugs had disappeared, the vesicles drying up, leaving brownish crusts, the latter dropping off in the course of a few days.—~~J. B. S., *in the Medical*~~ *News.*

JAMAICA DOGWOOD AS A HYPNOTIC AND ANODYNE.—Dr. F. Spencer Halsey reports a number of cases in the *Therapeutic Gazette*, in which he successfully used the fluid extract of piscidia, or Jamaica dogwood, in drachm and half-drachm doses. He concludes his article as follows: These few cases, culled from a number of months' experience in hospital practice, have led me to express my opinion as to the value of Jamaica dogwood. I have found it to be a most excellent hypnotic and anodyne; in no one case of those in which I employed it has it failed to relieve pain and induce sleep. One great advantage connected with it is that patients, after taking it, awake with none of the unpleasant after-effects which opium induces. Not only does it relieve pain and produce sleep, but in many cases it relieves cough, notably the case in phthisis. This experience, though very limited, has induced me to become very much attached to this remedy, and in every case where such an action as comes from its use is indicated I have always employed it with most satisfactory results.

TREATMENT OF ASPHYXIA OF THE NEW-BORN.—Dr. L. N. Sharp, of Minneapolis, Minn., describes in the New York *Medical Record* a method accidentally discovered many years ago by himself. He was trying to resuscitate an asphyxiated new-born child, but did not succeed, and the pulsation ceased in the cord. "I cut the cord and continued Marshall Hall's method till I became convinced the child was dead. So many years have now passed that I cannot speak of the condition of the heart, but am under the impression I continued my efforts till the beat of the heart could not be heard. Then I asked for a cloth in which to wrap the body, and took the child in my hands, holding the feet in an elevated position with my right hand, while the back and shoulders of the child, in a depending position, lay upon my left hand. The nurse was tardy in bringing me the cloth, and while I was holding the babe it gasped. I laid it down on the bed and again commenced Marshall Hall's method for resuscitation, but no results; I became convinced again that the child was dead. Taking it in my hands again in the manner above described, I asked for a cloth, and as before had to wait a little, and while waiting the child gasped. The thought came to me at once that the child gasped because the force of gravity carried the blood to the brain, and the lack of this was why the child was dying. I held the child in the same position till gasp after gasp brought respiration and circulation to a normal condition. The child lived. And many, many times since have I resuscitated children which I think would not have lived had I used the ordinary methods."

A CLEANLY AND ECONOMICAL METHOD OF APPLYING OINTMENTS.—At a recent meeting of the Manchester Medical Society, Dr. Brooke exhibited a number of ointments, prepared with a solid base, composed of cacao butter, wax, and oil, or lanolin, and cast into the form of sticks ("salve-sticks"). He has found them particularly useful in making applications to the face and hands, since, their melting-point being high, they do not run at the temperature of the body, as do ointments prepared with the ordinary bases; and, when dusted over with powder, they are practically invisible. When covered with Mather's or Seabury's and Johnson's adhesive rubber (waterproof) plaster, they offer a mode of applying remedies to the skin which is more durable than the Unna-Beiersdorf plasters, and less expensive. With this protective covering, they are especially applicable to the treatment of psoriasis by chrysarobin, and possess several advantages over the methods of Pick, Auspitz, and Besnier, in that the fatty menstruum is preserved; they do not need such frequent renewal; they are more readily applied, and do not cause any dragging on the skin and hairs. The fear of staining the clothing is completely removed, and the patient may, moreover, bathe without disturbing the dressing. They are supplied enclosed in small cases, like those used for cosmetics, so that they can be conveniently carried in the pocket. Somewhat similar preparations, which had been since brought out and described by Dr. Unna, were also shown.—*British Medical Journal.*

HIMROD'S ASTHMA CURE.—This proprietary medicine, which has attained a certain reputation in the treatment of asthma, is said to consist of a mixture of coarsely ground stramonium leaves and lavender flowers with a little benzoin, the whole sprinkled with sufficient of a saturated solution of nitrate and chlorate of potassium to make the powder burn well. Another formula consists of equal weights of powdered lobelia, stramonium, black tea, and nitrate of potassium, well mixed and sifted. Dr. Morell Mackenzie, quoting the last formula, recommends the addition of a little aniseed or fennel. A French formula advises stramonium and sage. The foregoing may or may not be identical with the proprietary article, but in any case they share with it the power of alleviating and cutting short the troublesome attacks to which sufferers from asthma are liable. It is an unsatisfactory feature of even the best remedies that they ultimately fail to produce the relief which first attended their use.—*Med. Press and Circular.*

BIOGRAPHY.

DR. IRVIN KELLER.

Born in Jefferson County, Ky., April 11, 1855, died at Hot Springs, Ark., September 29, 1886, of typhoid fever.

Very wide-spread regret has been felt among the friends of Dr. Irvin Keller at his early death, and the sudden blighting of a career exceptionally brilliant for one so young.

Endowed with a gentle nature and a noble mind, and loving his profession with an enthusiasm which belongs especially to youth and talent, Dr. Irvin Keller seemed destined by all who watched his brief career to attain the most enviable position in the medical profession.

The friends of his father and mother, Dr. and Mrs. James M. Keller, of Hot Springs, Ark., have been touched by the deepest sympathy with them in this irretrievable loss. They realize their inability to convey comfort now to such sorrowing hearts, so they stand aside with reverence, hoping that when "time the healer" shall have begun his work, their affectionate sympathy may not be without its use and value.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

MEDICAL SOCIETY OF VIRGINIA.

Seventeenth Annual Meeting, held at Fredericksburg, Oct. 26, 27, and 28, 1886.

PUERPERAL SEPTICÆMIA.

The feature of the session was the general discussion on "Puerperal Septicæmia," which was opened by Dr. L. Ashton, of Falmouth. He defined puerperal septicæmia as an infectious disease, due to inoculation of the wounds which result from the separation of the decidua, and passage of the child through the parturient canal, as well as from infectious diseases, such as erysipelas and all zymotic forms. He described the disease as being a *metritis*, a *vaginitis*, a *peritonitis*, a *cellulitis*, and a *phlebitis*, and discussed fully the characteristic symptoms of each. He traced the history of the disease from the days of Hippocrates, giving the different views held by the leaders in medicine down to the present time, as to the nature of the disease, and showed that Semmelweis, of Vienna, in 1847 first taught that the disease was produced by the poison engendered by cadaveric decay, and that at this day all modern investigators acknowledged it to be due to a septic material which enters the circulation through solution of continuity in the generative tract, or to some of the infectious diseases. He dwelt earnestly upon the importance of clearly diagnosticating between puerperal septicæmia and pyæmia. Prevention was next considered, and he gave the views of Thomas, Garrigues, and others, and discussed fully the importance of absolute cleanliness on the part of the obstetrician, and the obstetric equipment, but entered an earnest protest against the folly and uselessness, in ordinary labors, of using the germicides, etc., as advised by Fancourt Barnes, Dolèris, and many others, and contended that pure clean water that has been boiled is all that is requisite in most cases.

In the treatment, he said, the first thing to do on rise of temperature, indicating an attack of puerperal septicæmia, is to cleanse the vagina with a 2 or 3 per cent. solution of carbolic acid, or listerine (1-4), or corrosive sublimate (1-3000), every four to six hours. Much stress is laid upon the importance of intra-uterine injections in the successful treatment of the disease. Great caution is necessary in their use, and the intelligent physician should make them himself, using always a Chamberlain glass tube, or the tube invented by Dr. Lyman, of New York, fitted to a Davidson's syringe. Opium, to control pain and nervous shock, is highly spoken of, when given in sufficiently large doses. To reduce temperature, salicylic acid, or antipyrin preceding quinine, with the use of cold applied by means of the Skibber's cot, Townsend's rubber-tent coil, or sponging. Alcohol holds a high place in the treatment, as does digitalis. The diet in all cases should receive particular attention as a means of restoring tissue waste.

The president requested Dr. Theophilus Parvin, of Philadelphia, Pa., attending the session by invitation, to present his views on puerperal septicæmia.

Dr. Parvin said that if he were called upon to give a definition of the term puerperal septicæmia, he would define it somewhat after this manner: Puerperal septicæmia is a febrile affection of woman in childbed, which is contagious and heterogenetic. He believes the disease is dependent on germs for the following reasons:

1. The smallest particle of infected matter conveyed from one puerperal woman to the vagino-uterine tract of another woman in childbed gives the disease.

2. We may assume this statement to be correct from what we know to be the effect of germicides in preventing the disease.

3. Analogy also helps us to this conclusion, as we know that many diseases are dependent upon the introduction of living germs into the system.

Some gentlemen say that germs are autogenetic. Whoever believes this must believe in spontaneous generation. Dr. Parvin believes in no such doctrine. We don't say that scarlet fever begins itself. The poison is conveyed from outside—from another case of scarlet fever. So we say of puerperal septicæmia. The disease of which we are speaking, and which kills the woman, is not born in her. It is brought to and deposited in her from a preceding case of puerperal septicæmia. He does not believe that scarlet fever, diphtheria, or erysipelas can produce puerperal septicæmia. In a word, the specific poisons of these diseases are not identical with that of puerperal septicæmia, but they may be associated in one case, and thus have the appearance of conveying these different diseases. But a dog cannot breed a cat, although they may associate with each other. He referred to a fatal case of puerperal septicæmia in a mother who had nursed her child through an attack of scarlet fever, but when she was confined immediately afterwards she had a nurse who had been with a case of puerperal septicæmia. The question has often been asked: Can a puerperal woman have puerperal septicæmia without having a wounded womb? He does not believe it. He has never seen a case unless there was a wounded uterine surface. Likewise the question has been asked, Don't retained membranes, clots, etc., become causes of puerperal septicæmia? I would answer, "No," provided they are kept aseptic. These decaying secundines simply furnish the suitable soil for the nourishment of the microbe. The poison itself always comes from without. Dr. Ashton, in his elaborate and well-prepared paper, spoke of diphtheria of the vagina as a form of puerperal fever. Dr. Parvin would remark that only a few authors of the present day admit that there is any such form. He does not think such a form really exists. Some authors have supposed that there was no puerperal septicæmia without a very high temperature. But he has seen cases where the temperature never rose over 101° or 102° F., and the pulse not more frequent than 100 per minute. Dr. Parvin divides puerperal septicæmia clinically into two forms: (1) Limphangitis, and (2) phlebitis.

Limphangitis occurs early after the onset of septicæmia—by the second day—and the inflammation extends to other pelvic and abdominal tissues, causing even puerperal peritonitis. In this form of septicæmia in the childbed woman, we may find that the patient had an ushering-in chill, but such an event is not necessary to its clinical history. In the *phlebitic form*, we always find that the *woman has* repeat-chills. The milk-leg form is also the safest to the patient, as it indicates a localization and a limitation of the disease. The adhesive form of puerperal phlebitis is not of spontaneous origin.

Dr. Fordyce Barker and others have written much about the prevalence of malarial puerperal fever. In the fifty or more cases of puerperal woman seen by Dr. Parvin, he has seen only two cases of puerperal malarial fever. In this intermittent form of puerperal fever, the temperature rises from the normal or nearly normal standard suddenly and very high, and as suddenly falls to the nearly natural elevation.

As to the *treatment*, Dr. Parvin has tried many plans, but the result of his experiences has brought him to depend chiefly upon opium and whiskey. Nourishing food should be given throughout the disease. Antipyrin, quinine, etc., undoubtedly may do good for a while in lowering the temperature, but they soon break down the tone of the stomach and impair the digestive function. It is true he uses these agents sometimes to meet a specific and a purely temporary indication; but he certainly would not depend upon either of them for a continuous or prolonged treatment. In recommending the free use of alcohol in suitable cases, he would not be understood as saying that it is needed in the majority of instances. But when the temperature rises to 103° or 104°, its temporary administration acts well. It induces sleep, allays nervous agitation, and lessens the fever heat very sensibly. In summarizing his remarks, after the narration of some sad experience many years ago, coming out of the views which had been taught him by the great Professors of the Philadelphia schools when he was a medical student in that city—that puerperal fever was autogenetic—he said: "Gentlemen, if there is one thing impressed upon my mind more than another, it is the conviction, as if written with fingers of fire upon my memory, that puerperal septicæmia is contagious."

Dr. John N. Upshur, of Richmond, reported a case of puerperal septicæmia which he thought gave a good example of the autogenetic origin of the affection, the source of contamination being the suppurating endometrium. The attack set in two weeks subsequent to confinement, after what seemed to be a perfect convalescence, the only symptom pointing to trouble being the character of the lochial discharge, in continuing *bright red too long*. The appearance of a foul-smelling diarrhœa, as a critical discharge, was a point of interest. The death of a sister of this patient from septicæmia, she being three months advanced in pregnancy, who, from her condition, was more susceptible to contagion, and the probability that her attack was contracted from exposure to the foul air of her sister's chamber, incident to the alvine discharges, makes the supposition that the contagion entered her system through the lungs plausible, and gives an example of the heterogenetic origin of the disease. The prompt action of amyl nitrite, the large amount taken, and its long continuance when the patient was profoundly collapsed and death seemed imminent, was also a point of interest. Dr. Upshur stated it as his opinion that, while quinine and the salicylates are not curative in the treatment of puerperal septicæmia, yet they exert an antidotal influence on the poison circulating in the blood, and thus prove beneficial.

Dr. Chas. R. Cullen, of Richmond, said that as soon as delivery is completed the womb is left in a condition which makes it subject to infection from several diseases, as erysipelas, scarlet fever, sloughing sores, carbuncles, cancer, etc. The principal writers admit the clinical fact, but disagree as to the agents producing the infection—whether ptomaines, or decomposing matter, or bacilli, or bacteria, or microbes. Dr. Barnes, of London, admitted that puerperal septicæmia might be propagated even by the breath of the physician or nurse, and says that the disease is more liable to occur in primiparal cases. Dr. Guérin, of Paris, confirms these statements. Dr. Cullen then referred to the histories of several reported epidemics, showing the great contagiousness—both from other cases of puerperal fever and from other diseases—and fatality of the disease, and quoted from foreign and domestic records to prove his point. The great English surgeon, Hunter, said that his first case of puerperal fever commenced from his handling an ordinary sloughing felon on a patient's finger, and soon afterwards attending a puerperal woman. From this case, a large number of fatal cases developed. He discontinued obstetrical practice, and got his partner, who had not been in any of the infected cases, to attend six other cases of labor, and no puerperal disease resulted. He then resumed his obstetrical practice, when the disease reappeared in his cases, and he was compelled to discontinue obstetric attendance. Dr. Cullen gave other instances, leading to the deduction that surgeons should not attend labor cases—not that all surgeons would be conveyors of puerperal septicæmia, but the dangers are too great in that direction. As to treatment, he advocated isolation of the patient, and disinfection of all persons and things to come in contact with her genitalia. Vaginal washes of weak solutions of corrosive sublimate, etc., should be used.

Dr. B. B. Temple, of Danville, said that no one in his city who comes in contact with a case of scarlet fever, diphtheria, erysipelas, and the like, was allowed, by professional opinion there, to attend a case of labor. He thinks, as a result of this prohibition, that puerperal septicæmia is very rare, if it occurs at all, in his city.

Dr. Patrick J. Murphy, of Washington, D. C., in response to an invitation to express his opinions, said he would limit his remarks to a few clinical facts which had been impressed upon him by his fifteen years' experience in the Columbia Lying-in Hospital, where he had met with all forms of the disease. He was rather inclined to accept the views of Dr. Parvin in regard to the matters of autogenesis and heterogenesis. Before antiseptics were introduced, puerperal fever was much more frequent in practice than it is now. He objects to the term "puerperal fever" as applicable to the disease under consideration—preferring that of *puerperal septicæmia.* In regard to the treatment, the two important things were: first, prophylaxis; and second, curative agencies. By the prophylactic measures adopted, he has seen the death-rate reduced from 6 per cent. to 2 per cent. During the second stage of labor, when the os uteri is sufficiently dilated, he uses a hot 6 per cent. carbolized douche into the vagina. This measure takes the place of ergot in producing uterine contractions. When the child is born, if the placenta is not immediately expelled, he employs Credé's method, by using gentle friction backwards on the abdomen, and this soon brings on labor pains which expel the after-birth. He next cleanses the parts with simple sponge-baths, and then applies cotton to the vulva. As to the curative treatment, he agrees with Dr. Parvin as to the value of opium and whiskey, and as to the impropriety of depending on such agents as antipyrin, quinia, etc. In fact, he objects to the use of antipyrin in cases of puerperal septicæmia, while he thinks the administration of quinia in anything like heroic doses is to be condemned. He has found spirits of turpentine better than whiskey, both for internal use and externally for stupes. If there be much pain, he resorts to suppositories of extract of Indian hemp. He has seen Warburg's tincture, Norwood's tincture of veratrum viride, etc., tried as antipyretics and fail. If the typhoid form of the disease sets in, he treats the case as he would one of typhoid fever. Instead of the cold water coil, he uses a flannel bandage over the abdomen, over which he pours alcohol, which rapidly evaporates. The cold water coil is too apt to produce shock.

Dr. John S. Apperson, of Town House, Va., read a paper on "Puerperal Septicæmia." The question which he thinks of paramount importance to decide is whether we shall accept the dicta that puerperal fever is identical with surgical septicæmia, and produced by the absorption of septic matter, "either originating within the generative organs of the patient herself, or coming from without," and regard every puerperal woman, by virtue of her physiological state, as supplying suitable culture-beds for the propagation and growth of pathogenous fungi. If so, then we might formulate the practical inquiry: To what extent are we justified in the local use of disinfectants, antiseptics, and potent germicides prior to, at the time of, and subsequent to labor? Examination of the record of the 656 cases of labor in Dr. Apperson's practice, where no systematic use of any antiseptic has been applied, shows that only ten cases of metria in any form have occurred, and only one death. He could hardly expect a better result. He has seen many other labor cases, but is rarely called to a case of puerperal fever. Hence the conclusion that pathogenic fungi are not so prevalent as might be inferred from the writings of authors on the subject. Cleanliness he specially insists on in the lying-in room.

Dr. Bedford Brown, of Alexandria, read a report of "Six Cases of Puerperal Septicæmia, Illustrating the Results of Treatment Under the Old and New Methods."

He believes veratrum viride peculiarly adapted to the treatment of the morbid changes in the circulatory system and the pyrexia. It acts as a nervous sedative and prevents heart-labor and exhaustion. For the tympanites, 2 pints of infusion of flaxseed containing a drachm of oil of turpentine, 5 to 10 drops of carbolic acid, and 1 ounce of listerine, are thrown up the rectum into the colon twice daily. As to prevention, in no case where antiseptics have been properly used in labor has he met with puerperal septicæmia. His invariable custom is to cleanse out the genital canals by carbolic soap, warm water, and borax. He believes ergot also is an important prophylactic, especially when the uterus is large, flabby, and relaxed. Keep the uterus under its influence until all probability of infection has ceased.

Dr. Thos. J. Moore, of Richmond, first discussed the origin of puerperal fever. He regards the cause as identical with that of puerperal septicæmia, and they were therefore one and the same disease. The germ theory was fascinating to the investigating mind beyond conception. The French, German, English, and American schools had all met upon common ground. He then replied to the argument offered by Prof. Parvin, in which the latter had stated that it was impossible for scarlet fever, diphtheria, erysipelas, etc., to produce puerperal fever, as the peculiar microbe (or bacillus) would not give rise to a disease different from the special disease it was peculiar to. Dr. Moore said that he could not agree with the eminent Professor. In the first place, it was yet undetermined as to whether the three diseases above mentioned had a special microbe; secondly, all diseases producing puerperal fever from without had associated with their causative material the micrococcus of putrefactive decomposition; in other words, it was their secretions undergoing decomposition that gave rise to this common resultant—puerperal fever. Such was the case likewise with pyæmia and septicæmia. If the micrococci theory was not the proper one, then all of these diseases, through the process of retrograde metamorphosis, gave rise to some special animal poison that caused this disease, this process being fermentative in its nature. He accepted both auto and heterogenesis. The poison, he believed, as a rule, entered through some abraded or torn surface through the lymphatics and the veins; sometimes it penetrated healthy mucous membranes, as demonstrated when females suffered an attack of this fever prior to parturition.

In regard to treatment, he believed much that was done during the act of parturition meddlesome and harmful. He did not believe the female of the present day was so susceptible to pernicious impressions as many of the more enthusiastic would have us believe; he did not believe that any woman's life was imperilled where all the minute details as laid down were not complied with. He gave his own experience in one of the largest lying-in hospitals in the United States, seventeen years ago, prior to the origin of this new school. Mere cleanliness of beds, wards, water-closets was observed, and for months they were without fever; in fact, could have remained indefinitely so. He had not the same dread of these microbes as many of the gentlemen of the present day; he believed in precautions, but not to the same extent as those who were on the *qui vive* of apprehension.

Dr. Hunter McGuire, of Richmond, thought that a woman after child-birth was a good deal like a woman after a surgical operation—they were both liable to similar dangers. A very common danger in both is septic poison. This septic poison is the result of fermentative changes going on in dead matter only. This dead matter may be a piece of placenta or extravasated blood. It is generally the latter. Fermentation taking place, we will suppose, in a mass of extravasated blood, produces inflammation and suppuration; and when a portion of this is absorbed, it produces constitutional symptoms which we call septic poison. Dr. McGuire does not believe that this clot should have access to the air in order to undergo these putrefactive changes and produce blood poison. He had opened, as every other surgeon has, abscesses which had followed contusions, when extravasated blood had undergone fermentative change, and when air had had no possible access, and had let out, by incision, fetid pus, blood, and broken down tissue. Many a woman has puerperal septicæmia which may be explained in this way. The contusion during child-birth is often severe. We find blood extravasated in large quantities in the parts about the uterus and vagina—sometimes a great thrombus in the vulva; it may be without breach of mucous or cutaneous membrane, and under these circumstances, if her general system is depraved, fermentative change may take place and end in septicæmia. He can readily see, too, how the introduction of the poison of scarlet fever, erysipelas, etc., would render the unhealthy inflammation and suppuration all the more likely to occur—not that these diseases set up a distinct and separate poison, but provoke into greater intensity any inflammation already impending. He thought it was important to distinguish between the septic poison which he described and the process of infection. He did not think from what he had heard to-day that this distinction was always made. The latter process involved the living tissue, not the dead matter; and micro-organisms, parasitic in character, are developed. The names of Pasteur and Lister would go down to history to the latest generation, the first for his discovery of micro-organisms, which the air, as a vehicle, conveys to wounds; and the latter for the change he has wrought in practical surgery. In midwifery he thought, as in surgery, cleanliness was the most important thing to observe. "Get rid of the blood which, when dead and decomposing, is so dangerous. Dr. Parvin tells me that he will remove an ovarian tumor to-morrow, and I know that his greatest care will be to remove from the abdomen of the patient, as carefully as he can, every drop of blood which has escaped into it; and, if this is impossible, to render aseptic any which is left, to prevent, if possible, its fermentation and putrefaction."

Other remarks on the subject were made by Drs. J. Herbert Claiborne, of Petersburg, William C. Dabney, of the University of Virginia, R. A. Lewis, of Richmond, and others, going to show that other diseases than puerperal septicæmia (such as surgical septicæmia, diphtheria, erysipelas, etc., as well as retained membranes undergoing decomposition, etc.) might give rise to puerperal septicæmia.

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ORIGINAL CORRESPONDENCE.

LIVING NEARLY A YEAR WITH THE NECK BROKEN.

NORFOLK, VA., Nov. 5, 1886.

Editor Gaillard's Medical Journal.

DEAR SIR: The Baltimore *Sun* of Nov. 3, 1886, contained the following: "Mr. Geo. W. Davis, the Norfolk machinist, who died on Sunday last at 526 Hartford Avenue from paralysis, superinduced by an injury of the spinal column, was buried yesterday by the Knights of Labor. Drs. Robt. W. Johnson and A. A. Chewell deemed Davis's case an extraordinary one, from the fact that he lived eight months with his neck broken, and they decided upon a post-mortem, which Dr. Johnson made. The examination revealed a fracture of the third cervical vertebra. Mr. Davis's injury was caused by a fall of about ten feet during last March, which incapacitated him from work but a short time, although he was continually in pain. He came here six weeks ago, and paralysis gradually set in, the pain meanwhile increasing in intensity up to the time of his death."

As throwing some additional light upon the case above referred to, I will say that on the evening of Dec. 15, 1885, I was called to see Mr. Davis, who had just a few minutes before fallen from a platform to the floor, a distance of some four, or possibly five, feet, striking the back or side of the neck upon a railing which surrounds the platform. A very brief examination of his injuries as he lay upon the floor so convinced me that there was a fracture of a cervical spinous process, with subluxation of one of the articulating facets or apophyses (the unilateral dislocation of Malgaigne) that I had my friend Dr. O. F. Baxter called before attempting anything for the patient's relief. Some degree of extension and appropriate manipulation promptly reduced the luxation, the result being manifested by the disappearance of all visible evidence of the injury, and restoration of ability to make the several movements of the head and neck; all motion, however, greatly increased the already severe pain, which extended to the shoulder, arm, and side, and which continued very marked for some ten days, notwithstanding a liberal use of morphia. There was no paralysis noted at any time during my attendance, which continued thirty-one days, and at the expiration of which I found Mr. D. sufficiently recovered to resume his usual work, though still suffering some pain.

W. H. SHEPHERD, M.D.

THE POPULAR FAITH IN CERTAIN KINDS OF REMEDIES.

VANDALIA, MO., Nov. 10, 1886.

Editor Gaillard's Medical Journal:

DEAR SIR:—I have just read in the October number of the JOURNAL the address of Dr. Broadbent delivered at the recent meeting of the British Medical Association; and while the case I propose to relate may not be entirely *apropos*, I yet deem it an illustrative one of the implicit and capricious, and oftentimes misapplied, faith given by the laity to certain classes of medicines. The effect, too, was an immediate one, and proved of the gravest consequence to the subject.

August 11, 1886, I was summoned to see Oren F., a lad of ten years, who the previous day had eaten some half-ripe wild plums. During the afternoon *gastric* disturbance developed, with ejection of the contents of the stomach, among which were rinds of the fruit and probably one or two stones. The father administered some compound cathartic pills (probably those not having the mercury), which produced a moderate catharsis. The boy was not feeling well the next day, complaining of tenderness at the epigastrium and sensitiveness of the region on palpation. There was no account of any other marked symptom. At my visit the boy was lying on a couch, apparently not very sick, but indisposed to action. There was slight febrile movement, as indicated by the pulse and temperature.

In the instructions for the *régime* this point was attended to, and opiates to control pain and compôse the stomach and bowels were ordered to be given. Instead, however, the father, who believed in ***nothing if not purgation***, in disobedience of my positive injunction supplemented the pills before given with a dose of castor oil after my visit in the course of the day. This was followed by an aggravation to an intense degree of suffering over the abdomen. I was called and visited him in the night, and, meeting another physician there by agreement, an enema of warm water was given; but little if any fœcal matter was passed. At this visit the inevitable diagnosis to me was that I had a peritonitis to deal with; the indications were imperatively to give opium to the point of perfect estopment of peristalsis and the suppression of pain.

This plan was instituted and pursued with one or two interruptions. The opiates *per os* failing of efficacy, the hypodermic syringe was brought into requisition, by which the boy (narrowly escaping with his life) was conducted to recovery. The bowels remained confined from the night of the 11th till August 25, when they were moved by enema. I had difficulty, however, in subordinating the solicitude of the nurse for the motions to my purpose.

J. N. GLOVER, M.D.

REVIEWS.

A TREATISE ON THE PRACTICE OF MEDICINE, FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE. By Roberts Bartholow, M.A., M.D., LL.D., Professor of Materia Medica, General Therapeutics, and Hygiene, in the Jefferson Medical College of Philadelphia, and Dean of the Faculty; formerly Professor of the Theory and Practice of Medicine in the Medical College of Ohio, Cincinnati, etc., etc. Sixth edition, revised and enlarged. New York: D. Appleton & Co. 1886. Pp. xxvi.—990.

That six large editions of a work of this class should have appeared within the short space of as many years (the first edition having been published only in the latter part of 1880) shows a most remarkable degree of appreciation on the part of the profession. Each one has naturally been an improvement over the preceding, and many important changes have been rendered necessary from time to time, especially by the rapid advances which have been made in pathological knowledge since the first edition appeared. In the present one some new subjects have been introduced, and preliminary chapters have been added to the chief divisions of the work, in order to make the study of the class more exact and to enhance the practical character of the whole. In the preface to it Professor Bartholow states that he has especially sought to make it still more worthy the approbation of his readers by increasing its practical resources; and, not overlooking the advances made in scientific medicine, he has devoted more attention to the clinical aspects of the subject.

The work remains a worthy monument of American medical literature; with some faults and shortcomings, it is true, but also with many special excellences. It is characterized by much originality, and is thoroughly imbued throughout with the individuality of the author. "That the book might have been written from a different standpoint," he says, "is quite true, but then its character would have been changed. As the purpose was to prepare a concise, practical treatise, to be independeut in itself, and yet form a part of a larger whole, the subject must necessarily be discussed as has been done here." That some of his critics think differently, because they have conceived another ideal, he regards as inevitable, but he does not hesitate to plainly inform them that any regret he might have on this disapproval of his plans is quite tempered by the reflection that he is not striving to placate such critics so much as to please himself, as well as the large body of sympathetic readers who have signified their appreciation by their continued demand for the work. As previously announced, Professor Bartholow has long had in contemplation the production of a work in three volumes which should cover the whole domain of special pathology and therapeutics. The first two of these, Materia Medica and Therapeutics, and Practice of Medicine, having met with so favorable a reception, he now states that the third of the series, intended to treat of the Principles of Medicine, is in course of that careful and deliberate preparation necessary in the treatment of such an important subject. Its appearance will certainly be looked for with much interest by the profession.

The book is admirably issued by the publishers, and contains fifty-four illustrations, a number of which, however, are simply sphygmographic tracings and temperature charts. The index is scarcely as full as could be desired, and is not to be compared in completeness with that with which the recent work on Practice by Dr. Fagge has been provided.

ANALYSIS OF THE URINE, WITH SPECIAL REFERENCE TO THE DISEASES OF THE GENITO-URINARY ORGANS. By K. B. Hofmann, Professor in the University of Gratz, and R. Ultzmann, Docent in the University of Vienna. Translated by T. Barton Brune, A.M., M.D., late Professor of the Practice of Medicine in the Baltimore Polyclinic and Post-Graduate Medical School, and Lecturer on Clinical Medicine in the University of Maryland, and H. Holbrook Curtis, Ph. B., M.D., Fellow of the New York Academy of Medicine, etc. Second edition, revised and enlarged. New York: D. Appleton & Co. 1886. Pp. 310.

The year of the first publication of this work, 1878, it appeared in no less than three different languages. Its scientific completeness and reliability as a guide, as well as its conciseness, have made it very popular in Europe, and its merits have been sufficiently appreciated in this country to render a new edition now necessary, notwithstanding the appearance in the West some time ago of a translation unauthorized by the authors. In preparing the second edition the translators have also taken upon themselves the function of editors, and have carefully revised it, in view of the recent advances made in urinary analysis, particularly during the last three years; endeavoring to incorporate in the volume all that has of late been added to our knowledge in this department which will be of especial interest to the student and practitioner of medicine. At the end of the work are appended a translation of Dr. Ultzmann's description of his saccharimeter, and a series of very elegant plates representing microscopic specimens.

DISEASES OF THE DIGESTIVE ORGANS IN INFANCY AND CHILDHOOD, WITH CHAPTERS ON THE INVESTIGATION OF DISEASE, AND ON THE GENERAL MANAGEMENT OF CHILDREN. By Louis Starr, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia, etc., etc. With colored plate and other illustrations. Philadelphia: P. Blakiston, Son & Co. 1886. Pp. 385.

The immense importance of this class of affections in the young subject entitles them to a fuller amount of attention than can be allotted to them in any systematic work on diseases of children that is not of enormous size; and the appearance of a volume especially devoted to them is therefore matter for congratulation. That Dr. Starr would write a satisfactory treatise on the subject was to have been expected from his well-known abilities and exceptional clinical experience, and especially from the excellent work which he did in the editing of Goodhart's admirable "Guide to the Diseases of Children." The first part of the book, which occupies some forty or fifty pages, is devoted to the investigation of infantile disease in general, and while not necessarily belonging to a work on disorders of the digestive organs, it will be found of great service to the student and inexperienced practitioner. The third part, of about equal length, treating of the general management of children, is equally valuable, as the effort has been made to present to the inexperienced results that can only be attained by much study and practical work. The subjects of which it speaks are, feeding, bathing, clothing, sleep, and exercise; and in general, throughout the work, it may be said that the author, without neglecting therapeutics, has given great prominence to the selection of suitable food, artificial digestion, regulation of the clothing, bathing, and other hygienic measures, by which so much can be accomplished.

The main body of the work is devoted to a clear, well-expressed, and sufficiently full account of the diseases of the digestive organs, divided into five chapters, treating respectively of affections of the mouth and throat, affections of the stomach and intestines, caseous degeneration and tuberculosis of the mesenteric glands (*tabes mesenterica*), affections of the liver, and affections of the peritoneum. In the sections on treatment many formulæ which the author has found of special value have been introduced. As a rule his teachings are full of practical wisdom and strong common sense, and show great familiarity with the subjects of which he treats, as well as special qualification for dealing successfully with children's complaints. On one point, however, there can be little doubt that he is in error, and that is as regards the harmlessness, or even good effect at times, of a certain amount of diarrhœa in infants. Prof. A. Jacobi has well said that infantile diarrhœa is never physiological, and he and Dr. J. Lewis Smith, as well as other high authorities on pædiatrics, have shown the necessity of not allowing such diarrhœas to run on unchecked, on account of the danger of the occurrence of more serious and even fatal intestinal trouble.

The plate referred to on the title-page is not colored, as it is there stated to be; but it gives as satisfactory representations of the tongue in the form of chronic gastro-intestinal catarrh known as mucous disease as an uncolored plate can. The binding is one of the most attractive that has appeared on a medical book for a long time, and the volume in its whole appearance is a model of neatness and elegance.

THE PHYSICIAN'S VISITING LIST (Lindsay & Blakiston's) for 1887. Thirty-sixth year of its Publication. Philadelphia: P. Blakiston, Son & Co., Successors to Lindsay & Blakiston.

It is sufficient to announce the appearance of this old friend once more. It has stood the test of time, and there are countless physicians throughout the land who "use no other," for notwithstanding the competition of a large number of rivals that have sprung into existence since its first publication, it has steadily increased in popularity. Among the special advantages of its mechanical construction are its convenient size, the neatness and durability of its binding, and the excellent character of its paper, which is manufactured expressly for it, and it is as thin as is compatible with safety. In addition to the varied memoranda which have hitherto rendered it so useful and satisfactory a pocket companion, the following new features, suggested by the experience of the publishers and by those who have used the List for many years, have been added: Disinfectants and Disinfecting; Examination of Urine (based upon Prof. James Tyson's Hand-book for Practical Examination of Urine); List of Standard Reference Books; Incompatibles, and a Cash Account. Its price varies from $1, for the smallest size, to $3 for the interleaved two-volume edition, arranged for fifty patients per day or week. The publishers also issue a perpetual edition, without dates and with special memorandum pages, which can be commenced at any time and used until full.

MEDICAL AND SURGICAL DIRECTORY OF THE UNITED STATES, Comprising List of Physicians and Surgeons, Arranged by States, with School Practices, Post-office Addresses, Population and Location, Date and College of Graduation, All the Existing and Extinct Medical Colleges in the United States and Canada, with Locations, Officers, Numbers of Professors, Lecturers, Demonstrators, etc., the various Medical Societies, Medical Colleges, Hospitals, Sanitariums, Asylums and other Medical Institutions, Boards of Health, a Synopsis of the Laws of Registration and other Laws Relating to the Profession in Each State, Medical Journals, with names of Editors, Frequency of Publication and Subscription Rates, Official List of Officers of the Medical Departments of the United States Army, Navy, and Marine Hospital Service, Roster of Examining Surgeons of the United States Pension Department, a Descriptive Sketch of Each State and Territory, Embodying Such Matters as Locations, Boundaries, Extent in Miles and Acres, Latitude and Longitude, Statistics Relating to Climate, Temperature, Rate of Mortality, Number of Deaths from Consumption, etc., the Names and Locations of All the Best Known Mineral Springs, Full Particulars of all National Associations and Societies Relating to Medicine and Surgery, and a Full List of all the Physicians in the United States, Arranged Alphabetically, with the Number of the Page in Which the Name Appears. Price Seven Dollars. Complete in One Volume. 1886: R. L. Polk & Co., Tribune Building, Detroit (Main Office).

The title page of this great directory is given in full in order that some idea may be formed of its completeness and of the vast amount of labor that must have been necessary in order to secure all the varied information with which its pages are stored. This work has been done with painstaking care, and it is believed that the results obtained are in all points accurate and reliable. Altogether, it forms a reference book of the greatest possible practical value, and one which has been long needed in this country. The publishers state that its plan was originally confined to a full list of the physicians of the country, arranged by States and Territories, compiled alphabetically by city, town, or village, and showing, as far as possible, the school of medicine practiced, the college from which each physician graduated, and the class year of graduation. "This information is still the main feature of the work, but during compilation other valuable features were constantly suggested by members of the profession. Each suggestion was carefully considered by the publishers, and whenever it appeared of value was adopted and incorporated in the work, without regard to the increased expenditure of time, labor, and money it involved." It may be of interest to know that its 1,455 pages contain the names of nearly 80,000 persons practicing medicine in the United States, including the Territories; and the complete list of all the names arranged alphabetically will enable any one to find the present location and address of any physician in the United States whose name he knows. It is intended that the directory shall be regularly issued in the future.

BOOKS AND PAMPHLETS RECEIVED.

"Paralysis, Cerebral, Bulbar, and Spinal." A Manual of Diagnosis for Students and Practitioners. By H. Charlton Bastian, M.A., M.D., F.R.S., F.R.C.P., etc. New York: D. Appleton & Co. 1886.

"Outlines of the Pathology and Treatment of Syphilis and Allied Venereal Diseases." By Hermann von Zeissl, M.D., late Professor at the Imperial-Royal University of Vienna. Second Edition. Revised by Maximilian von Zeissl, M.D. Authorized Edition. Translated, with Notes, by H. Raphael, M.D. New York: D. Appleton & Co. 1886.

"Annual Report of the Adjutant-General of the State of New York." Transmitted to the Legislature January 13, 1886. Albany, N. Y. 1886.

"Spinal Irritation." By Wm. A. Hammond, M.D., Professor of Diseases of the Mind and Nervous System, and of Medical Electricity. New York: Post-Graduate Medical School and Hospital, etc. Physician's Leisure Library. Detroit: George S. Davis. 1886.

"The Modern Treatment of Eczema." By H. G. Piffard, M.D., Clinical Professor of Dermatology, Medical Department of the University of the City of New York. Physician's Leisure Library. Detroit: George S. Davis. 1886.

"The Surgery of the Pancreas, as Based upon Experiments and Clinical Researches." By N. Senn, M.D., Milwaukee, Wis. Reprinted from the *Transactions of the American Surgical Association.* 1886.

"Is Electrolysis a Failure in the Treatment of Urethral Strictures?" By Robert Newman, M.D., New York. Reprinted from *The Medical Record,* September 25, 1886.

"Galvano-Cautery in Diseases of the Prostate, Bladder, and Urethra." By Robert Newman, M.D. Reprinted from the *Journal of the American Medical Association,* August 28, 1886.

"Method of Managing Typhoid Fever." By F. Peyre Porcher, M.D., Charleston, S. C. Reprinted from the *New Orleans Medical and Surgical Journal,* September, 1886.

"Operations on the Drum-Head for Impaired Hearing; with Fourteen Cases." By Seth. S. Bishop, M.D., Chicago. Reprinted from the *Journal of the American Medical Association,* August 28, 1886.

"Tardy First Stage of Labor, Profuse Post-Partum Hemorrhage, Electricity as an Oxytoxic." By N. L. Guice, M.D., Fayette, Miss.

"Intussusception in Children." By W. E. Forest, M.D., New York. Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children,* July, 1886.

"Report of the Louisiana State Board of Health on the Biloxi Fever." Reprinted from the *New Orleans Picayune,* September 8, 1886.

"A Home-Made Spinal Apparatus." By C. Fayette Taylor, M.D. Reprinted from the *New York Medical Journal,* September 4, 1886.

"Fifty Cases of Abdominal Section (Second Series)." By James B. Hunter, M.D. Reprinted from the *New York Medical Journal*, August 21, 1886.

"The Exploration, Excavation, and Illumination of the Interior of Bones in Any Part of the Body." By Milton Josiah Roberts, M.D., New York.

"Spinal Diseases and Spinal Curvature." By Meigs Case, M.D., New York. Reprinted from *The Medical Record*, December 27, 1884.

"Method in Medical Study." By Charles H. May, M.D. Reprinted from *The Medical Record*, September 18, 1886.

'Medical Book News." A Quarterly Devoted to the Dissemination of Sound Medical Literature. Vol. 1, No. 1. September, 1886. Lea Brothers & Co.

"Simultaneous Double Amputation." By Brice M. Hughes, M.D. Ligation of Internal Iliac. By W. Locke Chew, M.D., Birmingham, Ala. Reprinted from the *Alabama Medical and Surgical Journal*.

"A Method of Oblique Intestinal Resection Without Subsequent Danger of Organic Structure." By W. Locke Chew, M.D. Reprinted from the *New Orleans Medical and Surgical Journal*, September, 1886.

"The Mechanism of Indirect Fractures of the Skull." By Charles W. Dulles, M.D. Reprinted from the *Transactions of the College of Physicians of Philadelphia*.

"Pelvic Abscess in the Male." By T. Herring Burchard, A.M., M.D., New York.

"Observations on the Medical and Surgical Treatment of Peritonitis." By T. Herring Burchard, A.M., M.D. Reprinted from the *New York Medical Journal*, August 15, 1885.

"An Epitome of the Newer Materia Medica, etc. Fourth Edition, Revised and Enlarged. Detroit, Mich.: Parke Davis & Co. 1886.

"Malarial Irritation of the Bladder in the Female." By Henry K. Leake, M.D., Dallas, Texas.

"Hémorrhages Utérines." Par Le Docteur Sneguireff. Paris, 1886.

"Fourth Annual Announcement of the Medical Department of Niagara University." Buffalo, N. Y. Session of 1886-87.

"Two Rare Cases of Abdominal Injury." By I. A. Stucky, M.D., Lexington, Ky.

"Report on Rhinology: The Treatment of Nasal and Pharyngo-Nasal Catarrh." By J. Addison Stucky, M.D., Lexington, Ky. Reprinted from the *Cincinnati Medical and Dental Journal*, October, 1886.

"Diet Talks." Arranged by Reed & Carnrick. New York, 1886.

"Quarterly Bulletin of the Clinical Society of the New York Post-Graduate Medical School and Hospital," October, 1886.

"The Treatment of Uterine Flexions." By Virgil D. Hardon, M.D. Atlanta, Ga., August, 1886.

"Ethics of Female Sterility." By A. Reeves Jackson, A.M., M.D. Chicago, Ill., 1886.

"The School of Pharmacy, Purdue University, Lafayette, Ind. Session o 1886-87.

"Operation for Removal of an Omentocele and an Undescended Testicle. Recovery." By A. W. Fly, M.D., Galveston, Texas.

"Meconeuropathia." By C. H. Hughes, M.D. St. Louis, Mo., 1886.

MISCELLANEOUS.

MANAGEMENT OF THE THIRD STAGE OF LABOR.—Dr. A. R. Fisher, assistant in the obstetric clinic of Professor Slavianski in Kharkoff, has made a large number of observations with the view of determining the relative advantages in the third stage of labor of Credé's system of gentle manipulation or massage of the uterus, and the method of forcible expression of the placenta by powerful compression of the uterus. His statistics point decidedly in favor of the former method. In 493 cases where Credé's method was employed post-partum hemorrhage occurred twenty-five times, while in 183 cases where expression was resorted to it also occurred twenty-five times; that is to say, the hemorrhage cases were 5 per cent. with Credé's method, and 13 per cent. with the expression method. Again, the retention of pieces of membrane occurred less frequently with the former than with the latter mode of treatment, the percentage of cases in which this occurred being 5·7 and 7·4 respectively. The relative proportions of the occurrence of pyrexia, by which was understood any rise above 38° C., the temperature being taken three times daily, were 38.3 per cent. and 46.4 per cent., and the cases in which puerperal complications supervened were also fewer after Credé's method than after the more violent procedure, being respectively 5 per cent. and 9 per cent. A diagram is given with the author's paper, which is published in the *Russkaya Meditsina* of August 10th, showing that the process of the involution of the uterus is perceptibly quicker, at all events during the first week, in cases where Credé's method has been used, than in those where the placenta has been expressed. Dr. Fisher concludes with a general eulogy of Credé's method, as being the most rational and successful plan of treating the third stage of labor, and withal so simple that every doctor, and indeed every properly instructed midwife, should practice it habitually.

HOW LONG TO SLEEP.—Instead of trying to lay down arbitrary rules as to the length of sleep, it would be wiser in a common-sense and physiological way to say, Work while it is day; sleep when you are weary, which will be at night if the day has been spent in honest and energetic labor. When you wake, rise; and if the day's work has been sufficiently well done, the time of waking will not be earlier than sunrise. The difficulties about sleep and sleeplessness—apart from dreams—are almost uniformly fruits of a perverse refusal to comply with the laws of nature. Take, for example, the case of a man who cannot sleep at night, or rather who, having fallen asleep, wakes. If he is what is called strong-minded, he thinks, or perhaps reads, and falls asleep again. This being repeated lays the foundation of a habit of waking in the night and thinking or reading to induce sleep. Before long the thinking or reading fails to induce sleep, and habitual sleeplessness occurs, for which remedies are sought and mischief is done. If the wakeful man would only rouse himself on waking, and get up and do a full day's work, of any sort, and not doze during the day, when next the night came round his sixteen or twenty hours of wakefulness would be rewarded by a sleep of nine or ten hours in length; and one or two of these manful struggles against a perverted tendency to abnormal habit would rectify the error and avert the calamity. The cure for sleeplessness must be natural, because sleep is a state of natural rhythmical function. You cannot tamper with the striking movement of a clock without injuring it, and you cannot tamper with orderly recurrence of sleep without impairing the very constitution of things on which the orderly performance of that function depends.—*Lancet.*

WET-NURSING IN PARIS.—These peasant matrons have been spoiled by the upper classes, where they are indulged to an extent that defies description. They are decked out as for a feast; they rule the household, in return to which they give what the mother is apparently unwilling or unable to give, and what old-fashioned folks still persist in considering the sweetest joys of maternity. Thackeray made Becky Sharp French by the mother's side. It proved his acumen; had he done otherwise, English readers would have been inclined to tax him with exaggeration in depicting his heroine as utterly indifferent, nay, sick and tired, of her pretty son because he interfered with her enjoyment of society. In Paris, however—and in the large provincial centres, whose chief delight it seems to ape Paris—the Becky Sharps are in a majority. I have before me the statistics of last year's births for the city of Paris (the twenty arrondissements within the fortifications). They amount to 62,000. Out of these 17,000 were despatched to the country. I may safely defy any one curious in these matters to take a six hours' stroll through one or two of the best or second-best quarters of Paris, and to find more than one well-dressed mother out of every thirty unflanked by a wet-nurse. He can easily try the experiment for himself, seeing that there is a difference in the costume of the mere nursemaid and the wet-nurse. The latter is got up very theatrically and prettily with a wreath of beautiful ribbons round her exquisitely embroidered cap, two long streamers of the same ribbon floating in the wind, a handsome dress and ample cloak, often lined with silk, and a lace apron. She is part of the show of a fashionable entertainment in Paris. If my observer has done this, if he calculates the 17,000 infants gone to the provinces, and jots down a computation based upon the fraction of the remaining 45,000, he will arrive at the conclusion that probably about one of every ten mothers nurses her own baby.—*Paris Correspondence London Globe.*

REMINISCENCES OF THE LATE DR. AUSTIN FLINT.—Dr. Wesley M. Carpenter has just had published together in pamphlet form his memoir of Dr. Marion Sims, presented to the Medical Society of the State of New York in February, 1884, and his memoir of Dr. Austin Flint, read before the Medical Society of the County of New York, September 27, 1886. From the latter the following interesting reminiscences are taken:

When, several years afterwards, I had an opportunity to renew my acquaintance with Dr. Flint, it was in connection with his clinical lectures at Bellevue Hospital. And now, even while I speak, the scene repeatedly witnessed in a little waiting-room, just outside the entrance to the present amphitheatre, stands out upon memory's tablet with the life-like outlines in the paintings which hang upon these walls, as with beaming face, flashing eye, and nervous move he pointed out the peculiarity of a percussion note, a pulmonary râle, or a cardiac murmur. If delayed in making a final inspection of his collection of clinical material—for he almost invariably went through his wards some time prior to the hour for the lecture and selected his cases—it was his pleasure to make his way into the amphitheatre unobserved, in order to obviate the noisy demonstrations of the students, especially distasteful to him within a hospital. He was always solicitous concerning the comfort, and never disregarded the feelings of his hospital patients. He handled, examined, and treated them with the same gentleness, kindness, and respect that he practised in the houses of the wealthy and the aristocratic. Gentlemanly deportment was his constant attendant. He endeavored to secure in the surroundings of a hospital clinic the order, the quietness, and the attention which prevail in a well-ordered sick-room in a private dwelling, and as our acquaintance ripened into an almost student-like intimacy, I repeatedly accompanied him, before the arrival of the students, into the lecture-room, where his dignified presence held in restraint the vivacious tendencies of a medical class. As I recall these incidents of his daily life, it is with the feeling that I have been made better by having spent so many hours in the full light of his worthy example, and they sparkle before me with all the beauty, lustre, and perfection of dewdrops, changed by the rising sun into diamonds, symbols of the purity of the motives and the character of the man.

On more than one occasion he said to the writer: "It is a positive enjoyment for me to write, and when the work of the day is done I sit in my office and frequently write until 11, 12, 1, and perhaps 2 o'clock, before I feel tired enough to go to bed." The result of this labor, yet his pleasure, was the numerous articles for medical journals, papers to be read before medical societies, addresses before learned and scientific bodies, and several volumes on subjects belonging directly to our science and art, all of which reflected credit upon their author. He wrote with facility, his style was finished, and his diction was classical. * * * He won the respect, the confidence, and the admiration of his pupils. His lectures were characterized by graceful delivery, simple but expressive language, and systematic presentation of his subject. * * * He rarely lectured or spoke on medical subjects without preparation. * * * Gentlemanly deportment was his constant attendant. Dr. Flint was a man of simple habits, polished manners, independent opinions, and freedom from fear in their advocacy, and indefatigable industry; of whom it can be said truthfully that he possessed a capacity equal to any occasion which might arise. * * * He was affable and indulgent, and was always ready to throw around the beginning practitioner the strong arm of his protective power and sympathy.

A PATIENT THREE THOUSAND MILES AWAY.—A writer in the *New York Times* relates a marvellous story of a lady of this city who, while on a visit to England, was taken dangerously ill. Her husband, who was in this country, as soon as he heard of it sent her sister over to take care of her; and the account goes on to say: "This lady is an enthusiastic American in spirit, and the first thing that she did when she arrived at the bedside of her sister was to dismiss the physicians who were in attendance, in whose knowledge and skill she had no faith; then she telegraphed here that the regular family doctor be called and made acquainted with all the symptoms of the sickness and be asked to prescribe. This order was obeyed; the cable each morning and each night brought a succinct account of the patient's condition. There was great gravity in the case—so great, indeed, that the family doctor felt impelled to call a consultation of other leading physicians of the city, and for over a fortnight these doctors met daily to receive the reports that were cabled here, and to send back explicit directions as to the management of the case. The treatment succeeded like a charm; the patient is home now in perfect health again; but the sister who came with her is not likely ever to be convinced that anything other than the service that the cable lent, in keeping American doctors practically at the bedside all the time, could have prevented death."

It would be interesting to know whether there is any truth in this remarkable narrative, and if so who the family doctor and "other leading physicians" are who would thus consent to trifle with a patient's life. It seems probable, however, that there can be little foundation for the story.

AN EXTRAORDINARY PRIZE FIGHT.—Another astonishing story concerning New York physicians has lately appeared in one of the morning papers. "One of the most remarkable prize fights on record," the account states, "took place yesterday morning at a place in Westchester County, not many miles from Harlem Bridge. Thirty-two rounds were fought in two hours and thirteen minutes, at the end of which time both pugilists were so weak that they were unable to do any further punishing, and their seconds agreed to have the battle a draw. In one respect the battle was extraordinary. It was arranged for the benefit of a party of physicians and surgeons who were prompted to raise the purse for the purpose of taking scientific observations as to the amount of punishment a man can stand, the behavior of a pugilist in a prize ring, and the action of the heart, lungs, and other organs." The reporter then went on to give a full account of the disgusting spectacle, mentioning that there were no less than twenty "well-known physicians present." Whether this story is true also seems highly problematical; but if it is, we are left in ignorance of the names of the twenty well-known physicians who have sunk so low as to be present at such an affair. Their "observations" were probably principally confined to the bar of the tavern where it took place, and it is no wonder that they were ashamed to have their names appear in the published account.

DEATH BY A DRUGGIST'S ERROR.—The fatal mistake of a Haverhill druggist, whereby eighty-eight grains of podophyllin were put up for one dose for a young woman, the sign *ss*, representing half a grain, being mistaken for eighty-eight, the mistake resulting in the death of the young woman, illustrates the folly of allowing young clerks with no preliminary study or preparation to undertake the responsibility of dispensing drugs. Were the law whereby apothecaries are authorized to dispense medicines as stringent as it ought to be, or were there, in fact, any State statute whereby a man with no fitness for the place is forbidden to sell powerful drugs (and in all foreign countries such protection is given the public, ignorant and incompetent men being excluded from the druggist's office), such mistakes would seldom or never occur. A very superficial knowledge of materia medica would have indicated to the dispensing apothecary that eighty-eight grains of podophyllin was a dose that it would be impossible for a physician to prescribe.—*Boston Med. and Surg. Journal.*

WORK IN STORE FOR THE PROFESSION.—The following item of fashionable intelligence has lately been published: Griddle cakes are to come conspicuously to the front this winter, and it is going to be quite the proper thing —so a lady prominent in society avers—for the fashionable young woman to boast of her achievements in this line. Griddle cake parties are predicted.

HUMBOLDT AND THE LUNATIC.—A story, says the *Boston Medical and Surgical Journal,* is told by a French paper of Baron von Humboldt, who, during one of his visits to Paris, expressed to his friend, Dr. Blanche, the distinguished authority on matters concerning insanity, a desire to meet one of his patients.

"Nothing easier," said Dr. Blanche. "Come and take dinner with me to-morrow."

Next day Humboldt found himself at the dinner-table of the famous alienist, in company with two unknown guests. One of them, who was dressed in black, with white cravat, gold-bowed spectacles, and who had a smooth face and very bald head, sat with great gravity through the entire dinner. He was evidently a gentlemen of undoubted manners, but very taciturn. He bowed, ate, and said not a word.

The other guest, on the contrary, wore a great shock of hair brushed wildly into the air; his shabby blue coat was buttoned askew, his collar was rumpled, and the ends of his crazy necktie floated over his shoulders. He helped himself, ate and chattered at the same time.

Story upon story did this incoherent person pile up. He mixed the past with the present, flew from Swedenborg to Fourier, from Cleopatra to Jenny Lind, from Archimedes to Lamartine, and talked politics and literature in the same breath.

At the dessert Humboldt leaned over and whispered in his host's ear, glancing at the same time at the fantastic personage, whose discourse was still running on.

"I am very much obliged to you. Your maniac has greatly amused me."

"My maniac!" said the doctor, starting back. "Why, that isn't the lunatic! It's the other one."

"What! The one who hasn't said a word?"

"Certainly."

"But who in the world can the man be who has talked in this fashion all the while?"

"That is Balzac, the famous novelist."

STILL DEAD.—An anxious tailor of this city, who in vain sent bill after bill to the home and office address of one of his backward customers, finally hit upon the device of leaving his dun at one of the fashionable clubs, of which he heard his debtor was a member. The club's clerk returned the bill marked, "Mr. Blank is dead." On the first of the following month in came the bill again, when the clerk again returned it, this time marked. "The gentleman is still dead."

INDIRECT APPLICATION.—*Mistress:* Patrick, you told me you needed the alcohol to clean the mirrors with, and here I find you drinking it."

Patrick: Faix, mum, its a-drinkin' it and brathin' it on the glass oi'm a-doin'."—*Life.*

COMPOUNDING A FELONY.—A correspondent wants to know what "compounding a felony" is. In those States having prohibitory statutes we submit the following as a satisfactory recipe for compounding a felony.

℞.—Spts. Vini Gallici	℥ij.
Sacchar; Alb;	ʒj
Acidi citrici	q s.
Aquæ Puræ	q s.

Ft. Solutio.
Sig. Ad libitum.

J. O. KING, M.D.—*Puck.*

COMPLIMENTARY TO THE HAPPY FATHER.—*Fond Mother with Infant:* "He looks like his father, doesn't he?"

Well Meaning but not very Discriminating Visitor: "Yes, but I shouldn't mind that, so long as he is healthy."

A GENUINE VETERAN.—Speaking of purgatives, Prof. Bartholow told of an old soldier who always carried about him a bullet, which he had used *forty years* as a cathartic. It acted by its weight.—*Class-room Notes in Coll. and Clin. Record.*

A NEW NAME FOR PRUSSIC ACID.—At an inquest recently held at Burton, England, on the body of James Sproule Smythe, a surgeon who for some time had been in practice in the town, and whose death occurred on the previous day from prussic acid, the jury returned a verdict of "Death from misadventure."

A POWERFUL REMEDY.—The latest and most wonderful cure effected by a new patent medicine is announced in the case of a boy who had swallowed a silver dollar. An hour after taking it he threw up the dollar all in small change, principally five cent pieces.

THE PRINCESS'S BABY.—A lady not very familiar with the etiquette observed in court circles in Europe, on reading in the newspaper that Lord Randolph Churchill was the Minister in attendance at the recent accouchement of the Princess Beatrice, remarked that she couldn't see what a preacher should be nosing around for at such a time anyhow, and for her part she thought they might have had a doctor for the poor thing.

PRACTICAL CHEIROSOPHY.—Mr. E. Heron Allen, an Englishman who has had much fashionable success at home, and is now giving lectures in New York on "Practical Cheirosophy," or the science of the hand, has in his possession a magnificent album, containing representations of the hands of a large number of prominent persons. Under that of the Rev. Henry Ward Beecher is the following autograph note: "My father used to practise palmistry, but under afflictive circumstances, which disgusted me early with this science applied."

MEDICAL NEWS.

THE INTERNATIONAL MEDICAL CONGRESS.—The Executive Committee of this body, to whom has been intrusted the work of organizing and developoping the interest of the profession in making this Congress fully equal to any previously held, have lately shown their interest in the work by sacrificing private engagements, and at their own expense traveling from distant points to meet in general session in Pittsburgh. The meeting was fully attended, and the various reports of the sub-committees and the extensive correspondence of its chairman all showed the advance made in the perfect organization of the Congress. All the Sections of the Congress reported highly satisfactory progress in the appointment of Sectional officers, and the promise of original papers of a high class. The various officers of the Sections, including members of the Council, now exceed three hundred and seventy-five well-known members of the medical profession in the United States. Numerous appointments to Sections have also been accepted by prominent members of the profession in Great Britain, France, Belgium, Holland, Germany, Brazil, and other countries; so that there can now be no doubt as to the international character of the Congress. Among those recently accepting office as Vice-Presidents of the Congress, we note Sir B. Walter Foster, President of the Council of the British Medical Association; Mr. Ernest Hart, Editor of the Journal of the British Medical Association; Sir Thomas Longmore, Surgeon-General (retired) of the British Army; Sir Joseph Fayrer, Surgeon-General of India; Mr. John Eric Erichsen, Sir Dyce Duckworth, and Mr. Jonathan Hutchinson, of England; Professor Dujardin-Beaumetz, M. Bouchut, M. Cadet de Gassicourt, and M. Grancher, of France; Professor Moncorvo, of Rio de Janeiro; M. Servais, of Belgium; Alfred Vogel, of Germany, with many others equally well-known. As the Executive Committee will continue to quietly prosecute its work, with the sole object of maintaining the honor of the profession in the United States, and making good the invitation given and accepted in 1884 at Copenhagen, and in 1886 at Brighton, we anticipate a result in every way creditable to our countrymen, and a proper compliment to our guests. Arrangements are under consideration for reduced fares on steamships and railways, and in hotels; and we feel assured that not only will our visitors find all arrangements thoroughly perfected for their pleasure and comfort, but an opportunity to visit this new and extensive country at greatly reduced rates of travel, and under the most favorable circumstances.—*Journal of American Medical Association.*

ST. LUKE'S HOSPITAL.—The annual meeting of the Board of Trustees of St. Luke's Hospital of this city, was held October 18th. The report of the Superintendent showed that the past year had been one of the most prosperous in the history of the institution. About $65,000 was received during the year from bequests and for endowments of free beds—an amount greatly in advance of the usual receipts of this character. The $100,000 left the hospital by the will of Wm. H. Vanderbilt is being used in part to erect a building for the Superintendent and other officers, and this, when completed, will leave a considerable portion of the hospital building hitherto occupied for this purpose vacant for patients. An upper story, which has not before been used, is also to be utilized during the coming year, so that the capacity of the hospital will be nearly doubled.

THE AMERICAN RHINOLOGICAL ASSOCIATION met at St. Louis October 5, 6, and 7. The following officers were elected: President, J. A. Stucky, M.D., of Lexington, Ky.; First Vice-President, Carl H. von Klein, M.D., of Dayton, Ohio; Second Vice-President, Theodore North, M.D., of Keokuk, Iowa. The Association adjourned to meet on the last Tuesday in September, 1887, at Dayton, Ohio.

MORTALITY IN THE STATE OF NEW YORK FOR THE MONTH OF SEPTEMBER (Official Bulletin of the State Board of Health).—The total reported mortality for September was 7,239; of which 44.3 per cent. were under the age of five years. From Zymotic diseases there were 1,960 deaths, a ratio of 272.88 per 1,000 mortality. From Diarrhœal diseases, the ratio per 1,000 is 165.40; from Typhoid Fever, 24.49; from Croup and Diphtheria, 44.78, there being a continued prevalence, to a mild degree generally, of the last reported in various parts of the State. From Consumption the ratio of mortality is 127.34 per 1,000, and 228.76 per 1,000 deaths above the age of five years.

The combined death-ratio per 1,000 from Zymotic diseases, Consumption, and Puerperal diseases is 408.62. From Acute Respiratory diseases there were 67.26 deaths per 1,000.

PASTEURISM.—At a lecture given in the Sorbonne, Paris, October 10th, by Dr. Chautemps, of Paris, Vice-President of the Paris Municipal Council, on M. Pasteur's method, the lecturer stated that out of a total of 1,583 French patients only 10 deaths occurred, of which 2 were attributable to accidental causes. He desired to deal only with the cases under treatment previous to August 1st, in order to leave an ample margin of seventy days. They amounted to 1,276. Ten per cent. of these were bitten by dogs manifestly mad, and in 70 per cent. of the cases the dogs were scientifically shown to have been rabid. The remaining 20 per cent. were doubtful cases. Hence, out of 1,276 persons, 973 were bitten by dogs ascertained to have been mad. In the natural order of things, 155 deaths would have taken place, or 145 over the insignificant rate. Dr. Chautemps was satisfied M. Pasteur had saved 145 lives.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—Dr. David C. Bryan, of the Almshouse Hospital, New York, has been appointed Demonstrator of the Normal and Pathological Anatomy of the Nervous System in the New York Post-Graduate Medical School and Hospital.

NEW YORK COUNTY MEDICAL ASSOCIATION.—At the stated meeting held November 16, Dr. T. Gaillard Thomas read a paper on "Laparotomy as a Diagnostic Resource," and Dr. Ira B. Read presented a specimen of ruptured aortic aneurism of great interest.

NEW YORK ACADEMY OF MEDICINE.—On the evening of November 18, Dr. Wm. H. Draper delivered the anniversary discourse, his subject being "The Principles and Progress of Modern Therapeutics."

FRED ARCHER, the most famous jockey in England, recently committed suicide while suffering from delirium caused by typhoid fever.

MEDICAL STUDENTS ON LORD MAYOR'S DAY.—On Lord Mayor's Day, November 9, when a riot was threatened by the London Socialists, three hundred medical students, armed with bludgeons, turned out in a body to assist the police in maintaining order. The latter, however, did not apparently appreciate their services, for they dispersed the students and would not allow them to enter Trafalgar Square, where the Socialists held their meeting.

CHEVREUL AT A HUNDRED.—The *Popular Science Monthly* for November publishes an interesting account of M. Chevreul, the eminent scientist, the completion of the one hundredth year of whose age was celebrated in Paris on the 30th and 31st of August last with appropriate observances and honors. It is accompanied by a striking representation of M. Chevreul in his hundredth year at work in his laboratory, from a photograph by M. David.

THE GUILD OF ST. LUKE THE EVANGELIST AND PHYSICIAN.—A meeting of this Guild, the object of which is "to promote and extend the Catholic faith, especially among the members of the medical profession," was held at Calvary Protestant Episcopal Church in this city, November 19, when addresses concerning the objects and working of the Guild were delivered by Bishop Quintard, of Tennessee, and others.

DEGREES CONFERRED ON PHYSICIANS.—At the celebration of the Two Hundred and Fiftieth Anniversary of the founding of Harvard University, held November 8, the degree of LL.D. was conferred upon Dr. Joseph Leidy, Professor of Anatomy in the University of Pennsylvania, Dr. S. Weir Mitchell, of Philadelphia, and Dr. John S. Billings, U. S. A.

FASTS IN PARIS.—"Professional fasting" seems to be all the rage in Paris. Not to be outdone by the wonderful feats of Succi and Merlatti, a young American woman, whose modesty pervents her from divulging her name, has essayed to fast for thirty days "under the surveillance of a committee."

INTER-STATE NOTIFICATION IN INFECTIOUS AND CONTAGIOUS DISEASES.—In addition to the resolutions presented by the National Conference of State Boards of Health, and adopted by the American Public Health Association, the following from the Advisory Council of the Association were also adopted.

Whereas, it is necessary for the protection and preservation of the public health that prompt information should be published of the existence of cholera, yellow fever, and small-pox,

Resolved, That the American Public Health Association believes it to be the duty of each State and provincial Board of Health, within whose jurisdiction one of these diseases shall appear, to give, immediately, notice of the existence of the same to neighboring States and provincial Boards of Health, and to the Boards of towns and cities in neighboring States and provinces which have no central boards. In such States and provinces this duty of notification lies upon the Local Boards.

Resolved, That it is the sense of this Association that whenever rumors of the existence of pestilential disease in a State or province prevail, and upon application to the health authorities of said State or province information respecting the truth of the rumor is refused, the health officials of another State or province are justified in entering the before-mentioned State or province for the purpose of investigating and establishing the truth or falsity of such rumor. In conducting the investigation every reasonable effort should be made to co-operate with the health authorities of the locality.

Resolved, That a case which so nearly resembles one of the specified diseases as to raise a reasonable suspicion of its character, or a case in which concealment is attempted, ought to be reported as a suspected case, in the same manner as if the diagnosis were certain.

IRVING A. WATSON,
Secretary American Public Health Association.

THE BLACKWELL'S ISLAND TRAINING SCHOOL FOR NURSES.—The tenth Annual Commencement of the Training School of Charity and Maternity Hospitals, Blackwell's Island, was held October 26, when diplomas were awarded to twenty-four graduates.

CHANGES AT THE LONDON HOSPITAL.—Sir Andrew Clark has resigned the position of physician to the London Hospital, and Dr. Stephen Mackenzie, assistant physician, has been promoted to his place. Dr. James Anderson, the present registrar of the hospital, becomes assistant physician.

THE PRACTICE OF MEDICINE IN THE STATE OF TENNESSEE.—A committee of the State Society, of which Dr. F. M. Sim is the chairman, has issued a circular to the profession throughout the State of Tennessee with a view to obtaining their co-operation in securing a law regulating the practice of medicine.

THOMSEN'S DISEASE.—At a recent meeting of the New York Neurological Society, Dr. George W. Jacoby exhibited the first case of Thomsen's disease known to have been observed in this country.

EXPELLED FROM THE ROYAL COLLEGE OF SURGEONS.—The Council of the Royal College of Surgeons of England has removed Mr. Edwin W. Alabone from the list of its members for advertising in the papers. The *Lancet*, after heartily commending the action of the council, goes on to say with much truth: "There are more subtle forms of advertisement which are scarcely less culpable than those which we are denouncing, and which deceive persons of education and position of whom better things might be expected. Perhaps these are sufficiently met by more subtle indications of professional condemnation and contempt. But it is a question whether they too should not receive more consideration from the bodies whose degrees and diplomas give importance to the culprits."

TWO COURSES OF FREE LECTURES.—Dr. L. Duncan Bulkley has resumed his clinical conferences on diseases of the skin at the New York Hospital, on Wednesday afternoons at four o'clock. Dr. Newton M. Shaffer is delivering a course of clinical lectures on orthopædic surgery at the New York Orthopædic Dispensary and Hospital, 126 East 59th Street, on Tuesday afternoons at half-past four o'clock.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.—The annual meeting was held October 25, when the following officers were elected for the ensuing year: *President*, Laurence Johnson; *Vice-president*, F. R. S. Drake; *Secretary*, W. M. Carpenter; *Treasurer*, O. B. Douglas; *Censors*, Daniel Lewis, H. T. Pierce, W. E. Bullard, W. O. Moore, and J. S. Warren.

The report of the Committee on Hygiene showed that, aided and sustained by the Health Department, the Committee have secured the proper drainage of the whole Croton area, and the removal of all the nuisances which polluted the Croton water-supply. The report of the Committee on Ethics suggested that some action be taken by the Society to repress the growing tendency to report surgical operations in the lay press.

ADVERTISING OPERATIONS IN THE PAPERS.—The suggestion of the Committee on Ethics, of the Medical Society of the County of New York, concerning repression of the growing tendency to publish surgical operations in the newspapers, is timely, and should receive the unqualified support of every practitioner of medicine and surgery. The names of every one of those who have heretofore worked at this breach of propriety and good sense are well known, and whenever the subject is brought up they are promptly enumerated as the recognized violators of what honorable professional gentlemen endeavor to sustain and maintain. These trenchers upon the good name of the profession can, with perfect safety, assure themselves that they do not occupy an enviable position.—*N. Y. Medical Record*.

THE AMERICAN JOURNAL OF OBSTETRICS publishes in its November number a paper concerning thirty-three laparotomies by Dr. Wm. Tod Helmuth; but, curiously enough, it does not append to the name of the writer a single one of the long list of titles and positions held by him, among which [illegible] Graduate of the Homœopathic Medical College of Penn-[illegible] Professor of Surgery in the New York Homœopathic Medical College, [illegible] the Hahnemann Hospital and Wards' Island Homœopathic Hospi-[illegible] Member of the New York State Homœopathic Medical Society, and [illegible] Member of the Société Médicale Homœopathique de France.

DR. JULIUS F. MINER died at his home in Buffalo, November 5, at the age of sixty-three years. He was eminent in the profession, and ranked for many years as one of the ablest surgeons in Western New York. He was born in Peru, Mass., in 1823, was graduated at the Albany Medical School in 1847, and settled in Buffalo in 1855. He was for several years Professor of Special and Clinical Surgery in the Buffalo Medical College, and editor of the *Buffalo Medical and Surgical Journal.*

THE DEATH OF DR. W. H. B. POST, a son of the late Dr. Alfred C. Post, of this city, is announced, after a long illness.

MEDICAL SOCIETY OF VIRGINIA.—The following officers have been elected for the ensuing year: *President*—Dr. Bedford Brown, of Alexandria, Virginia. *Vice-Presidents*—Drs. Alexander Harris, of Jeffersonton, Culpeper Co.; Herbert M. Nash, of Norfolk; and L. Ashton, of Falmouth. *Recording Secretary*—Dr. Landon B. Edwards, of Richmond. *Corresponding Secretary*—Dr. John F. Winn, of Richmond. *Treasurer*—Dr. Richard F. Styll, of Richmond.

AN EXCELLENT APPOINTMENT AND WELL-DESERVED HONOR.—Doctor Daniel G. Brinton, editor of the *Medical and Surgical Reporter*, has been elected Professor of American Linguistics and Archæology in the University of Pennsylvania. Dr. Brinton has been for several years Professor of Ethnology and Archæology in the Academy of Natural Sciences of Philadelphia, and is Vice-President of the American Association for the Advancement of Science for the section on Anthropology. He is the author of numerous works and essays on these branches, and has edited a series of works in the native American languages under the title "Library of Aboriginal American Literature," six volumes of which have already appeared.

MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.—Dr. Thomas acknowledges the following additional subscriptions: W. Gill Wylie, M. D., $100; George G. Wheelock, M. D., $25.

THE NEW YORK ALUMNI OF THE UNIVERSITY OF PENNSYLVANIA had a dinner at Delmonico's on the evening of November 23, when a permanent society was organized. Dr. Meredith Clymer, of this city, presided, and a delegation from Philadelphia, headed by the Provost of the University, Dr. Wm. Pepper, was present.

MEDICAL DEPARTMENT OF DARTMOUTH COLLEGE.—The annual commencement of this institution was held November 23, when nineteen graduates received the degree of M. D.

THE SURGEON-GENERALSHIP.—The President has appointed Col. John Moore Surgeon-General of the United States Army.

RESOLUTIONS ON THE DEATH OF DR. G. L. EVANS.—At the meeting of The Chickasaw County Medical Society, held at Houston, Miss., Sept. 20, 1886, the following preamble and resolutions were introduced and adopted unanimously.

WHEREAS, God, the Supreme Dispenser of life and death, hath called away from his sphere of action a member of our profession, Dr. J. L. Evans, who, from his long and useful life, and his untiring labor for the advancement of his profession, his high-toned ethical bearing among his fellows, his successful practical knowledge and skill, and uncomplaining Christian fortitude, as, beneath the weight of years, he toiled on his professional rounds to the end, hath left us much in his example for imitation; therefore, be it

Resolved, That in the death of our brother, who for more than the third of a century steadily marched in the ranks of our profession, battling with disease, and has now fallen at more than three score, with the armor still on, the profession has met with a profound loss.

Second, That while we bow in submission to the Sovereign's will, we will ever cherish with lively interest the memory of our deceased brother, and sincerely sympathize with his family in their irreparable loss.

Third, That these resolutions and proceedings be spread on the minutes of this Society, and published in the *Chickasaw Messenger*, the *Free South*, and GAILLARD'S MEDICAL JOURNAL, and a copy sent to the family of the deceased.

J. A. PURKEY, M. D.
W. L. WALKER, M. D.
J. L. ABBOT, M. D.
J. W. ABERNETHY, M. D.
Committee.

EDITORIALS.

FREIRE'S RESEARCHES.—Through the kindness of Dr. J. McF. Gaston, of Atlanta, Ga., the JOURNAL has received a copy of a pamphlet by Professor Domingos Freire, of Rio de Janeiro, upon the regeneration of the virulence of the attenuated cultures of the microbe of yellow fever,* reprinted from *L'Étoile du Sud.* In a letter dated August 26, 1886, to Dr. Gaston, Dr. Freire expresses the expectation that the American Medical Association will succeed in obtaining the appointment of a Yellow Fever Commission by Congress, and states that the Brazilian Government has now given him the means to establish, upon a proper basis, a laboratory of Micro-biology, so that investigations can be made in a convenient and satisfactory manner. He then goes on to say that he is deeply impressed with the reception extended to his labors by a large portion of the medical profession of the United States, and asks Dr. Gaston to be good enough to make some public expression of his gratitude for the appreciation of his work which they have shown.

Dr. Freire states, furthermore, that the researches described in the pamphlet referred to have enabled him to graduate the cultures from a fatal virulence to a vaccine attenuation, and that with these modified cultures he can make the demonstrations upon animals at any time, in any season of the year. It is expected that in a short time experiments with these cultures will also be made in the laboratory of Brown-Séquard at Paris. In order to obtain some idea of these recent investigations, it may be of interest to review them rapidly in detail.

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* Notice sur la Régéneration de la Virulence des Cultures Atténuées du Microbe de la Fièvre Jaune. Par le Dr. Domingos Freire, Profeseur de Chimie Organique es Biologique à la Faculté de Médecine de Rio de Janeiro, Extract du Journal *O Paiz.* Traduction de *L'Étoile du Sua* Rio de Janeiro, 1886.

At the outset Dr. Freire states that one of the points which have impressed him the most in the etiological study of yellow fever, is the property which cultures of the xanthogenic microbe present, that when attenuated in sterilized bouillon they preserve this attenuation indefinitely up to and during epidemic seasons, during which its activity increases almost insensibly. He says that he asked himself many times whether it would not be possible by some means to revive this lost energy, and that he tried, for the purpose of solving the problem, various experiments, the results of which have already been reported in the first book which he published; experiments in which he employed, separately and simultaneously, as agents, heat and electricity. The results, however, were not satisfactory.

This year he has pursued some investigations in the same direction, in order to see if he could not be able to discover the experimental condition necessary to restore to the microbe the lost toxic property. It was necessary for him to establish this point, for, in possession of this condition, it would be easy for him at all times of the year to obtain virulent cultures for his demonstrations and researches. Practically, he had not arrived at a position where he could pursue the cultures in a virulent state for more than four or five days. After this time they became attenuated, and it became necessary to have at his disposition new subjects from which to obtain morbific virus.

As a result of his new experiments, however, he has fortunately been able to get rid of this inconvenience, and he states that he can now at all times of the year, both during and out of the epidemic period, perpetuate the virulence of the cultures, and make the latter pass at will from the toxic state to that of attenuation, and *vice versa,* bringing them gradually up from the activity requisite for vaccination to that which is infallibly mortal. The way in which he proceeded in order to secure this important desideratum was as follows:

In the first place he practiced inoculation by the hypodermic method, making under the wings of pigeons or chickens an injection of one gramme of attenuated culture which had served him for inoculations in the human species.

Secondly, three hours afterwards he killed the birds in the blood in which the culture had been in a state of incubation or digestion, gathering this blood in sterilized balloons; an operation to the performance of which he proceeded with all the technical precautions necessary to prevent the introduction of foreign germs into the balloons.

Third, immediately afterwards he inoculated small birds with this blood in a proportion equal to three-tenths of a cubic centimeter for thirty grammes of the weight of the animals. All those which were subjected to this experiment succumbed in the course of from one to seven days. Identical results followed this experiment, repeated fifteen times upon tiês and sanhassús, which, Dr. Freire explains, are the names given to some birds belonging to the genus *tanagra,* and which feed upon oranges, bananas, and other fruits.

Fourth, at the autopsy he found in the bodies of the birds lesions similar to those produced by yellow fever; and among these he cites, as being of great diagnostic importance, the presence of matter of the color of writing ink in the gizzard and intestines. The blood of these birds, examined microscopically, exhibits the characteristic microbes of the disease.

Fifth, the blood of chickens and pigeons, killed in the manner described, has preserved its morbific virulence for sixteen days, after which attenuation showed itself.

Sixth, the same blood inoculated in Guinea-pigs (cobaye), the inoculation being either intra-hepatic, in the peritoneum, or simply subcutaneous, and in the proportion of five-tenths of a cubic centimeter for five hundred grammes of the weight of the animal, equally manifested toxic quality, killing the subjects in a space of time which varied between two, three, seven and ten days. The anatomical lesions, he claims, confirmed the diagnosis of yellow fever. The liquid met with in the stomach was very opaque and black, and the urine contained albumen.

Seventh, if the blood of a pigeon or chicken is injected successively from one animal of the same kind to another, it is found that the energy of the virus diminishes progressively in proportion to the number of injections made: and it is thus possible to constantly procure a series of cultures systematically graduated.

Eighth, attenuated cultures inoculated in animals (birds or Guinea-pigs) confer immunity from vaccination, rendering them refractory to the action of the morbific virus.

Ninth, in all cases the specific microbe, with its ordinary characteristics, is found in the cultures thus graduated.

Tenth, confining himself for the present to the description of these facts, which he proposes to demonstrate publicly when the opportunity occurs, Dr. Freire states that he will not now take up the question of the theoretical explanation of this re-appearance of the virulence of cultures, from the fact of its simple permanence for a few hours in the interior of an animal organism itself refractory to yellow fever; and this, in accordance with what his observations, recorded in his last work, and recently repeated, have demonstrated, with a result identical with that obtained by Dr. Rangé, of the French Navy.

The fact, he goes on to say, of an organism refusing to yield itself to a decided morbid state and being able to add to the virulence of that morbid state, however extraordinary this may appear, will furnish a satisfactory explanation of a great number of questions relative to the characteristics of contagion during epidemics, and will also in the same way account for some of the obscure circumstances in connection with the heredity of various affections. In conclusion, Dr. Freire promises to promptly communicate to the world whatever he may accomplish in the future, relative to this very difficult subject.

The protective influence of inoculation in various forms against attacks of yellow fever has received additional support by the experiments of Dr. Charles Finlay, of Havana, with the mosquito, to which allusion was made in the JOURNAL for December, 1885. It is to be noted that his original observations have been strengthened by further investigations, and an elaborate series of cases has been reported by him in the October number of the *American Journal of the Medical Sciences.* The results indicate that the disease may be propagated from one person to another by the bill of a mosquito; and, moreover, that modified or attenuated virus, from a prescribed mode of proceeding with the mosquito, mitigates the attack, and serves as a protection against a recurrence of the yellow fever in the individual. As the *Journal of the American Medical Association* remarks, Dr. Finlay's paper is worthy of great attention, especially in view of the proposed Yellow Fever Commission, which, it is to be hoped, will thoroughly investigate the subject.

THE ANNUAL MEETING OF THE NEW YORK STATE MEDICAL ASSOCIATION.—The Fellows of the State Association have every reason to congratulate themselves on the marked success of their third annual meeting, which

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of Lockport, and one on Therapeutics, by Dr. Stockton, of Buffalo; but they were of the same high order as those of a like class delivered at the previous meetings, and the same may be said of the papers in general that were presented this year.

A worthy sucessor of Dr. Moore was elected in Dr. Isaac E. Taylor, of this city, and the four Vice-Presidents chosen were: First District, Dr. L. C. Dodge, of Rouse's Point; Second District, Dr. J. D. Sherer, of Waterford; Third District, Dr. G. W. Avery, of Norwich; and, Fourth District, Dr. Darwin Colvin, of Clyde. The offices of Corresponding and Recording Secretary have been united in one, and Dr. E. D. Ferguson, of Troy, who has shown himself such a hard-working and efficient officer, was selected for the position. Dr. Gouley, of this city, to whose energy its existence is due, was made Director of the Library. The library, which is at present located in the Carnegie Laboratory building, now contains over four thousand volumes, and the Association owes a debt of gratitude, which it would be difficult to repay, to Dr. E. S. F. Arnold for his labor of love—the extent of which few probably appreciate—in sorting, arranging, and cataloguing the books and journals.

It is to be noted that the time for the annual meeting has been changed from the third Tuesday in November to the second Tuesday in October. The change was made to suit the convenience of a majority of the Fellows, and by having it thus early in the season it is hoped that it will be possible next year to secure the presence of some of the distinguished Europeans who attend the International Medical Congress.

COCAINE IN WHOOPING-COUGH.—For more than a year past cocaine has been recommended by various authors as a remedy in pertussis, Moncorvo, it is believed, having been the first to publish an account of its use in this affection. One of the most recent writers upon the subject is Dr. Garnett, of Washington, an abstract of whose paper in the *Journal of the American Medical Association* will be found in the present number of the JOURNAL. Notwithstanding the favorable accounts of its action, however, it seems to have been employed in this connection to but a very limited extent by the mass of the profession, and there appear to be excellent reasons why it should be looked upon with suspicion. If its use should now be abandoned, it would not be the first remedy which has been lauded as almost a specific in whooping-cough, and then entirely laid aside because it eventually proved to be either useless or dangerous.

In a paper which Dr. L. Emmett Holt, visiting physician to the New York Infant Asylum, recently read before the New York Clinical Society he reports a series or cases which he says he desires to place on record in order that they may serve as a warning to any one who may be led to try the method of treatment from the high authority on which it is recommended. One child of about four months had well-marked symptoms from swabbing with a four per cent. solution. Two children, aged respectively three and six months, developed alarming symptoms from a four per cent. spray used twice. A child, aged eight months, used this solution without exhibiting notable constitutional symptoms for one week, but showed them almost immediately on beginning with a freshly made solution. A child, aged twenty-one months, had only the last-mentioned solution used, and displayed symptoms of poisoning from the beginning.

The conclusions at which Dr. Holt arrives are as follows: 1. Cocaine must be used with great caution in young children under all circumstances.

2. The spray is never to be recommended, since an uncertain quantity is given.

3. Solution stronger than four per cent. should not be used by swab or pencil in children under two years, and in older ones only with great caution. The same remark applies to the rectum as well as the throat.

4. In the cases where it was tried I failed to see any notable benefit in the disease.

5. Chloral seemed to be of very decided value in controlling symptoms due to cocaine. I would suggest a more extended trial of it in this direction.

In the discussion which followed the reading of the paper it was stated that cocaine had been tried very thoroughly in whooping-cough at the New York Foundling Asylum, without any good results, and several gentlemen expressed their conviction of the danger of its use. When in whooping-cough we have at command such remedies as belladonna, chloral, quinine, castanea vesca, and the bromides. which have stood the test of time, and which either alone or in combination have proved of such essential service, it would seem scarcely worth while to go on experimenting with a drug which is unquestionably dangerous in young children, and the utility of which seems at least to be extremely doubtful.

THE PAINLESS PRODUCTION OF LOCAL ANÆSTHESIA.—Dr. J. Leonard Corning, of this city, whose method of "prolonged local anæsthesia by incarceration" excited so much interest in the early part of the present year, has now published in the *New York Medical Journal* an ingenious method for the *painless* production of local anæsthesia, which promises the most admirable results, local anæsthesia as heretofore practiced by him having been unavoidably associated with a certain degree of pain, owing to the necessity of introducing the anæsthetic into and below the skin by means of the hypodermic needle.

It is described as follows: The part to be anæsthetized is exsanguinated with an Esmarch bandage, and a tourniquet having been applied above the bandage, the latter is removed. By means of an instrument resembling Baunscheidt's, so constructed that by releasing a spring one can thrust about one hundred and fifty needles at once into or through the integument, the skin is thoroughly perforated, in an absolutely painless manner, throughout the entire zone which it is desired to render anæsthetic. An oblong sponge electrode, saturated with a two-and-a-half-per cent. cocoaine solution, is now secured over the perforated portion of the integument by means of an elastic strap. This electrode is connected with the positive pole of a galvanic battery, while the cathode is placed opposite the same (on the other side of the limb) or over some indifferent point. If, now, the plates of the battery are immersed and the current is gradually increased until there is a slight but well-marked sensation of warmth, the anæsthetic begins to exert its influence at once, so that in the course of from two to four minutes there is produced a condition of anæsthesia which enables one to thrust needles into the part to considerable depths without provoking pain. It is evident that where such a condition of things prevails in the integument the structures lying beneath may be readily anæsthetized, if one so desires, to any extent and *without pain*, by the use of the hypodermic syringe, or by thrusting the needles a second time, still deeper.

Dr. Corning refers to two modifications of this method which have also proved efficient. It would seem to have a very wide application, not only in certain painful nervous affections, but also in surgical practice, and a number of experiments made since its publication, are said to have served to abundantly confirm the successfulness of the procedure.

THE MEDICAL REGISTER AND THE COUNTY SOCIETY.—Under the above title the New York *Medical Record* of November 6th publishes the following:—"The editors of *The Medical Register* of New York, New Jersey, and Connecticut, continue to refuse to publish as physicians the names of several gentlemen who are members of the New York County Medical Society. That is an injustice to the members in question, and a direct impertinence to the County Society. We admire and commend the general spirit of conservatism shown in editing *The Register*, but conservatism is a very different thing from the unreasonable procrusteanism of self-righteous jurisdiction."

On the next page but one it also publishes the following:—"We have received from out-of-town physicians copies of a circular announcing the organization of a 'Maternity Home.' This 'Home' is under the direction of a doctor whose name is not, we believe, in the *Medical Register*, but is on the lists of the County Medical Society. His 'Home' is for the care of 'respectable' unmarried women who are about to become mothers of illegitimate children. The circular announces that such persons can have their cases attended to privately, and, if desired, the child, when born, will be removed, so as to give the mother no further trouble. It is attempted to impart an air of respectability to the 'Home' by stating that the 'staff' are members of the County Medical Society, and are connected with some of the city colleges and public institutions. The 'Maternity Home' is an institution with which respectable medical men cannot associate themselves, and the manner in which it is advertised is to the last degree revolting."

It can be safely left to the judgment of every impartial reader whether the *Medical Register* has not in this instance "scored one." It is not meant to be insinuated for a moment that all or any of the other members of the County Society whose names do not appear in the *Register* are of the same high-toned professional character as the manager of the Maternity Home; but the simple fact remains that in this particular case the procrusteans of the *Register* have evinced the superior wisdom. It is doubtless true, as the *Record* goes on to say, that the County Society may be trusted to do its duty in connection with the matter;* but if it had been as careful to investigate the antecedents of the individual in question as the procrusteans, it might have been spared this public scandal.

As regards some of the other "gentlemen who are members of the County Society," but whose names the *Register* refuses to publish (one at least of whom happens to be of the fair sex), the reason for this refusal is that it has always been its invariable rule not to insert the name of any individual whose only credentials for practicing medicine are derived from an irregular institution. If these members of the County Society desire recognition in the *Register* they can easily secure it by taking the trouble to procure a diploma from a regular college, as has been done by every other person whose name is to be found in its pages. In the very same issue of the *Record* from which the extracts quoted were taken, it expresses itself in sufficiently plain language upon the subject of our homœopathic brethren, as will appear from the following: "A Free Hospital for Children, costing $300,000, has recently been erected in the upper part of the city, and placed in charge of homœopathic surgeons (!) and physicians. No doubt we shall be freely charged with maliciousness and envy in saying that the placing of serious cases of illness in care of genuine homœo-

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* The member has since been expelled.

[illegible] less than a crime. This is our very unbiassed opinion, however, [illegible] the homœopathic physicians in question are, as is the rule, men who [illegible] homœopathy and a great deal of ordinary medicine, then it is a case of misrepresentation, not to say humbug."

The members of the County Society referred to may not be "genuine homœopaths," but if they want to free their skirts from the suspicion of "misrepresentation," would it not be advisable that they should become regular physicians in the regular way? Does our friend the *Record* imagine that the General Medical Council of Great Britain would enroll on the Medical Register under its charge the name of any individual who had passed only the examinations of a homœopathic medical college?

THE DISADVANTAGES OF WET-NURSING.—In a paper recently read before the Section on Obstetrics and Diseases of Women and Children of the New York Academy of Medicine, Dr. Joseph E. Winters makes a trenchant protest against the practice of wet-nursing, concluding his argument with the following words: "Briefly, then, we usually select a hireling to perform the mother's most sacred duty; one who occupies the lowest place in the social scale and in whom there is an absence of the moral qualities; usually one who has been, in some degree at least, a prostitute; one who can forsake her own child and take a stranger's to her breast; one who can witness the gradual starvation and death of her own child, and who may be a double murderess by poisoning her foster-child with opiates or alcohol! If, after being nourished from such a fountain, our child is perverse, froward, insolent, and has no regard for truth, who is accountable? Is not the mother who deprived him of her own pure, untainted breast, and who purchased for him instead a polluted and debauched stream? It has been said that wet-nurses are a necessary evil. I believe them to be an *un*necessary and unmitigated evil; moreover, I believe, with certain rare exceptions, their employment should be suppressed." While the various evils to which he refers unquestionably exist in a certain proportion of cases, there can be little doubt that, on the whole, Dr. Winters has greatly exaggerated the disadvantages suffered by the foster-child. Granting that there are many instances in which mothers refuse to suckle their own infants for inadequate reasons, or from improper motives, there are a large number of other cases in every community in which this is quite impossible or out of the question. In rural districts, with proper care it is entirely feasible, as a rule, to raise healthy children on the bottle; but in cities, notwithstanding the most watchful care and the adoption of the most approved methods, this is often altogether impracticable, and wet-nursing necessarily has to be resorted to.

There is one part of the subject, however, in regard to which Dr. Winters is entirely right, and for calling attention to which in so forcible a manner as he has done he is entitled to the sincere thanks of both the profession and the public.

"The lives of nine-tenths of the wet-nursed children," he says, "are purchased at the expense of the lives of other children. The practice, therefore, of placing children to dry-nurse, either in families or in institutions, in order that the mother may go as wet-nurse, is iniquitous. It is inexcusable and indefensible under any circumstances. It is the deliberate starvation of one child that another may live. It is lamentable that a system so pernicious and injurious to the best interests of society should be tolerated, and even encouraged, by the most eminent and honorable members of the medical profession."

This is the great evil connected with wet-nursing, and it far surpasses all the others. It has long been a crying abuse, and there is the most urgent need of immediate reform in the matter. Probably the best solution of the problem is one suggested in one part of his paper by Dr. Winters, although personally he would prefer to abolish the whole system of wet-nursing; and that is for the wet-nurse to bring her own child with her into the family by which she is engaged. If she had not sufficient breast-milk for both (although many women are perfectly capable of suckling two children), both infants could be hand-fed to a slight extent; for this plan of nursing two babies has now been practically tested with marked success in a number of institutions. If the members of the profession will take a firm stand in this matter, a correct public opinion in regard to the enormity of abandoning a wet-nurse's child to almost certain death will soon be formed, and the infant mortality of our cities will be materially reduced. If in any case a family should refuse to receive the wet-nurse's child, they should be made to understand that they are personally responsible for its life, and that it is their duty to see that it is properly cared for *in the country*.

THE RUSH MONUMENT COMMITTEE have issued a circular which is worthy of the consideration of every member of the profession in the United States, and which, it is to be hoped, will be successful in securing sufficient funds for the monument in question. After referring by name to the various statues which now adorn the city of Washington, or are in contemplation, it goes on to say: "Painters and sculptors, presidents and law-makers, generals and admirals, the scientist and the discoverer, the philanthropist and the teacher, the jurist and the divine, thus all appropriately commemorated, the profession of *Medicine* ought not to delay longer in erecting its enduring testimonial of one who was not only a great physician, teacher, and investigator in medicine, a philosopher, philanthropist, eloquent lecturer, and accomplished writer, but also a fearless patriot and founder of the Republic, a member of the Continental Congress and signer of the Declaration of Independence, the first Surgeon-General of the Army of the Revolution for the Middle Department and Physician-General of Military Hospitals, and a member of the Convention for the adoption of that Federal Constitution under which we now happily live, Benjamin Rush, of Pennsylvania, whose active, honorable life was crowned by his heroic death on the 19th of April, 1813, in the sixty-eighth year of his age, when, while trying to save other lives, he fell like a soldier on the battle-field, a victim of the prevailing epidemic of typhus.

"The Committee to whom has been intrusted the execution of this great work are happy to state that it has met with unqualified approbation from every part of the country, and they accordingly announce that they are now ready to receive subscriptions and donations. It may be approximately estimated that $40,000 will be sufficient to erect a monument that will be fitting and unexceptionable as a work of art, and it does not admit of question that this sum can be speedily raised among the 106,000 physicians and students of medicine in the United States. That no one may be debarred the privilege of contributing, a subscription rate of one dollar from each individual has been determined, and each one is accordingly solicited to remit that amount." Subscriptions may be sent either to the member of the Committee for this State, Dr. A. N. Bell, 113 Fulton Street, New York, or to the treasurer, Dr. Joseph M. Toner, Washington, D. C.

CRIMINAL RECKLESSNESS.—The most astonishing case of the "tempting of Providence" that has recently come to light, is that of the young woman in Philadelphia, during the past month, who insisted on being married in bed while in the height of an attack of scarlet fever. There appears to have been no reason whatever for such a "rash" performance, except that the day for the wedding had been fixed before she was taken ill, and she was not willing to have it postponed. If she would be so unreasonable, it would seem to have been quite enough to expose the groom and officiating clergyman to the risk of contagion; but instead of this she insisted on having an entire bridal party present, including no less than five bridesmaids, and it would be difficult to estimate how much suffering and how many deaths might possibly be caused by the dissemination of the scarlatinal poison resulting from such a gathering. Has the family physician so lost his influence in Philadelphia that a stop could not have been put to such a foolhardy affair?

THE CLOSE OF ANOTHER VOLUME.—With the present issue, the last for 1886, GAILLARD'S MEDICAL JOURNAL completes its forty-third volume. Thanks to the generous support of its many friends, it can look back with no little satisfaction upon the year that is past. While all its various departments have received the most careful attention, never before in its long career has it been enabled to publish such a large number of valuable original articles; contributions to medical science of a character of which any journal might well be proud.

For the future there is the same, and even a more brilliant promise of success, and no efforts will be spared to make the JOURNAL always and in all respects a practical help to every practitioner. If our readers are satisfied with what it sets before them from month to month, will they not only continue to assist in its scientific work, but also kindly speak a good word for it among their medical friends? It wishes to stand wholly on its merits, and there can be little question that in all parts of the country there are many physicians who would be glad to subscribe, if their attention was once directed to its real value. Such effort would be equally advantageous to all concerned, for it is a self-evident fact that the larger the circle upon which such a publication can depend for pecuniary support, as well as for scientific contributions, the more attractive in every way it can be made. As before announced, new subscribers for 1887 will be entitled to receive the last three numbers of the present year free, and liberal commissions will be allowed to any persons who will act as canvassers for the JOURNAL.

END OF VOL. XLIII.

GAILLARD'S
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MEDICAL RECORD.—Dr. H. F. WILLIAMS, Jan. 17, 1885; Dr. E. DARWIN HUDSON, Jan. 9, 1886; and Mr. JOS. KETCHUM, Jan. 9, 1886.

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.—*Editorials*, Feb. 14 and Nov. 7, 1885, Aug. 21 and Oct. 16, 1886; Dr. V. Y. BOWDITCH, Aug. 1, 1885; Dr. A. S. HOUGHTON, Nov. 7, 1885; Dr. P. C. JENSEN, Nov. 7, 1885; Dr. WM. EVERETT SMITH, Nov. 14, 1885; Dr. E. TIEGEL, Nov. 28, 1885; and Dr. H. F. WILLIAMS, Aug. 14, 1886.

BOSTON MEDICAL AND SURGICAL JOURNAL.—Dr. V. Y. BOWDITCH, July, 16, 1885.

MARYLAND MEDICAL JOURNAL.—Dr. F. DONALDSON, Jr., Feb. 13. 1886.

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